VOLUME LIV NUMBER FIVE

THE NATIONAL GEOGRAPHIC MAGAZINE

NOVEMBER, 1928

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By N. C. WYETH

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WASHINGTON, D.C.

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ORGANIZED FOR "THE INCREASE AND DIFFUSION OF GEOGRAPHIC KNOWLEDGE"

TO carry out the purposes for which it was founded forty years ago the National Geographic Society publishes this Magazine. All receipts are invested in the Magazine itself or expended directly to promote geographic knowledge.

ARTICLES and photographs are desired. For material which the Magazine can use, generous remuneration is made. Contributions should be accompanied by an addressed return envelope and postage.

IMMEDIATELY after the terrific eruption of the world's largest crater, Mt. Katmai, in Alaska, a National Geographic Society expedition was sent to make observations of this remarkable phenomenon. Four expeditions have followed and the extraordinary scientific data resulting given to the world. In this vicinity an eighth wonder of the world was discovered and explored—"The Valley of Ten Thousand Smokes," a vast area of steaming, spouting fissures. As a result of The Society's discoveries this area has been created a National Monument by proclamation of the President of the United States.

AT an expense of over $50,000 The Society sent a notable series of expeditions into Peru to investigate the traces of the Inca race. Their discoveries form a large share of our knowledge of a civilization waning when Pizarro first set foot in Peru.

THE Society also had the honor of subscribing a substantial sum to the expedition of Admiral Peary, who discovered the North Pole.

NOT long ago The Society granted $25,000, and in addition $75,000 was given by individual members to the Government when the congressional appropriation for the purpose was insufficient, and the finest of the giant sequoia trees of California were thereby saved for the American people.

THE Society is conducting extensive explorations and excavations in northwestern New Mexico, which was one of the most densely populated areas in North America before Columbus came, a region where prehistoric peoples lived in vast communal dwellings and whose customs, ceremonies, and name have been engulfed in an oblivion.

TO further the important study of solar radiation in relation to long-range weather forecastings, The Society has appropriated $60,000 to enable the Smithsonian Institution to establish a station for four years on Mt. Brukkaros, in Southwest Africa.

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ARCTIC OCEAN
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MADAGASCAR
INDIAN OCEAN
EQUATOR
SOUTH ATLANTIC OCEAN
TROPIC OF CAPRICORN

EASTERN HEMISPHERE
NORTH POLE
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INDIAN OCEAN
EQUATOR
BELGIAN CONGO
BORNEO
TROPIC OF CAPRICORN
BRITISH SOUTH AFRICA
AUSTRAL

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While simulating the illuminated mariners' charts of the Sixteenth Century, which pictorially dramatized the deeds of dauntless explorers, this map of the Eastern Hemisphere records present-day political boundaries. It also traces the routes of the great discoverers who sailed strange seas and penetrated misty continents to add new areas to the known world.

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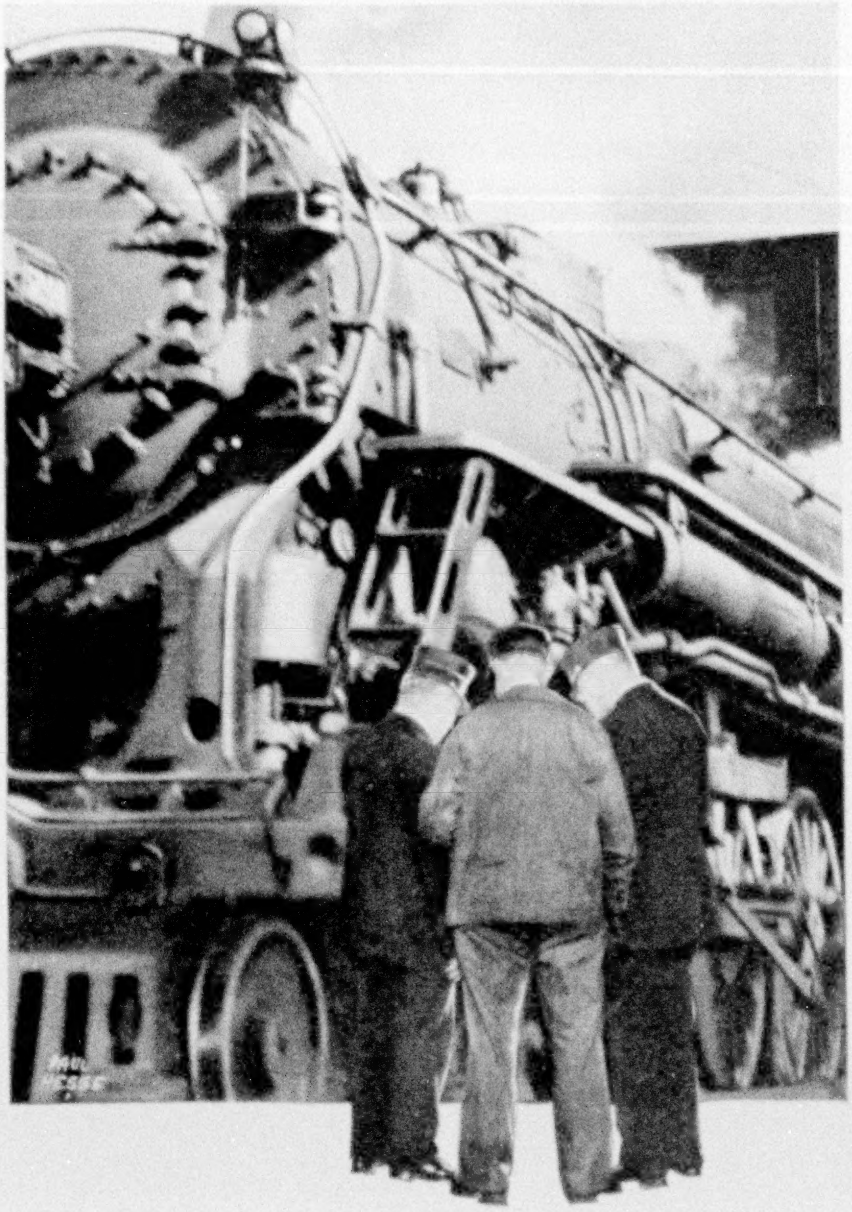
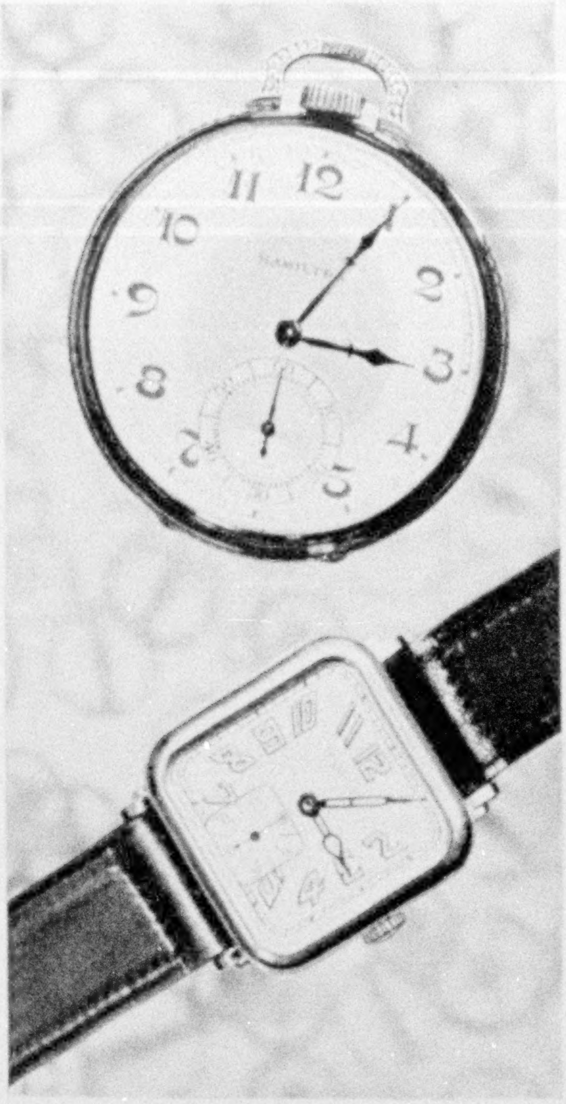
Fourth of a series of five murals by N. C. Wyeth, the originals of which adorn the walls of the National Geographic Society buildings in Washington. The fifth, a similar pictorial map of the Western Hemisphere, will appear in an early issue of the National Geographic Magazine.

XIIM





"Time is not their merry wanton.."

from "A Ride in the Cab of the 20th Century Limited"

BY CHRISTOPHER MORLEY

EVERY railroad man *must* make obeisance to his timepiece. As Christopher Morley points out in the charming, whimsical account of his ride in the cab of the "Century," railroaders live with Time in a way we rarely dream of. It is Time they feed into the flaming furnace. It is Time that flickers in the giant wheels. "Time," he concludes, "is not their merry wanton, as she is to some of us. She's their wife, for better for worse."

That's why for years the country's fastest fliers of the rails have been started and guided by the Hamilton Watch, known everywhere for its almost uncanny accuracy.

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Let us send you a copy of Mr. Morley's beautifully written story, illustrated with many unusual photographs. Also, "The Timekeeper," telling something of the care with which Hamiltons are made. Above is shown the beautiful Wheatland pocket model, in 14k filled green or white gold, engraved, $50. Also the masculine Hastings strap model, in 14k yellow or white gold, $85—in 14k filled yellow or white gold, $55. Address Hamilton Watch Company, 882 Columbia Avenue, Lancaster, Pennsylvania.

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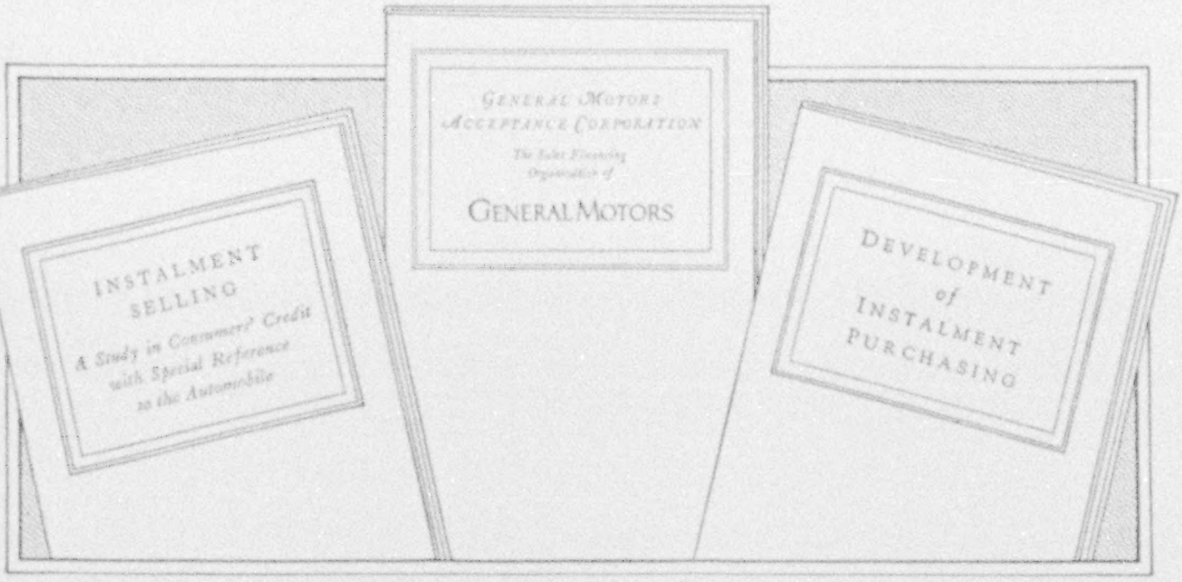

THE timeliness of the subject of INSTALMENT SELLING makes these three booklets of special interest not only to bankers but to business men and all others interested in consumers' credit.

INSTALMENT SELLING—A study in Consumers' Credit with special reference to the automobile. An address by Edwin R. A. Seligman, McVickar Professor of Political Economy, Columbia University.

DEVELOPMENT OF INSTALMENT PURCHASING—A paper read by John J. Raskob, Chairman Finance Committee of General Motors, before a meeting of the Academy of Political Science in New York City.

GENERAL MOTORS ACCEPTANCE CORPORATION—An outline of the operations of this banking institution which finances sales of General Motors products.

In addition to its Annual Report and Quarterly Statement of Earnings, General Motors issues special booklets from time to time for the information of its stockholders, employees, dealers and the public.

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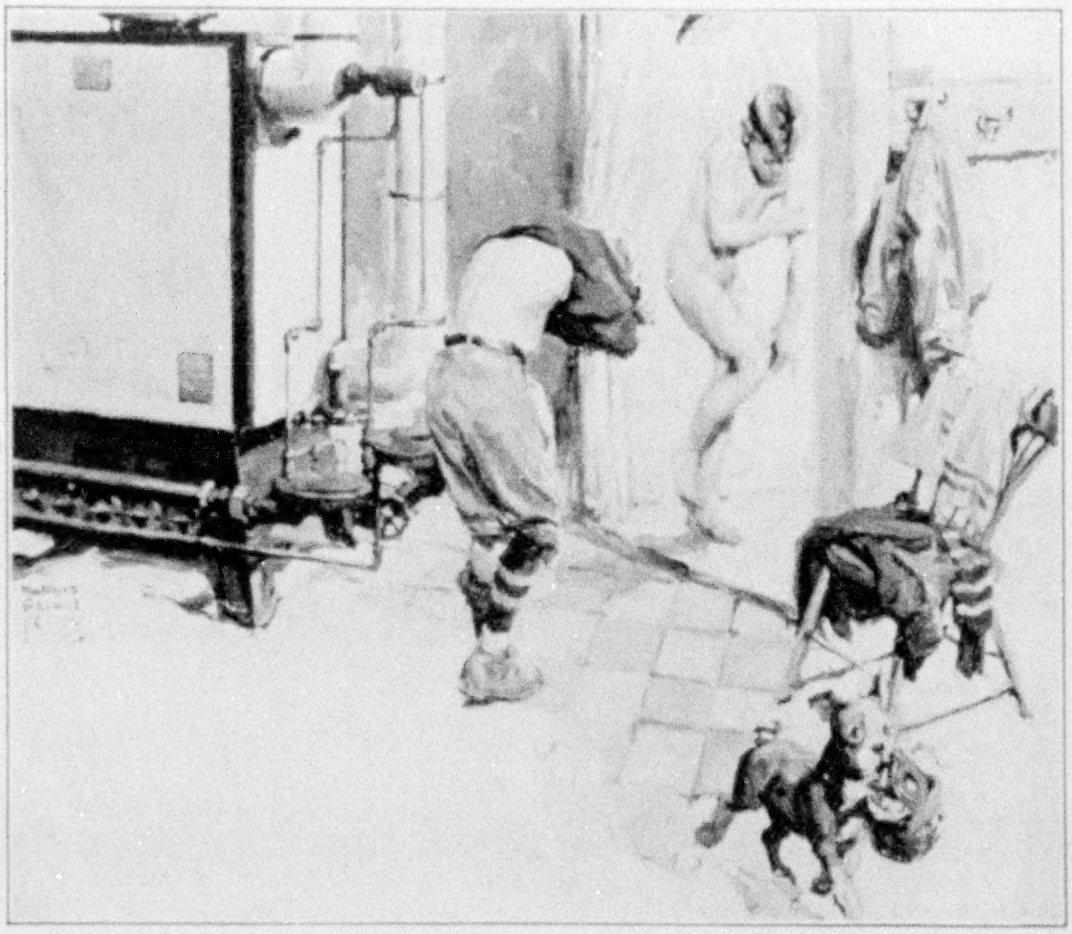
where "the Pup is Furnace Man"



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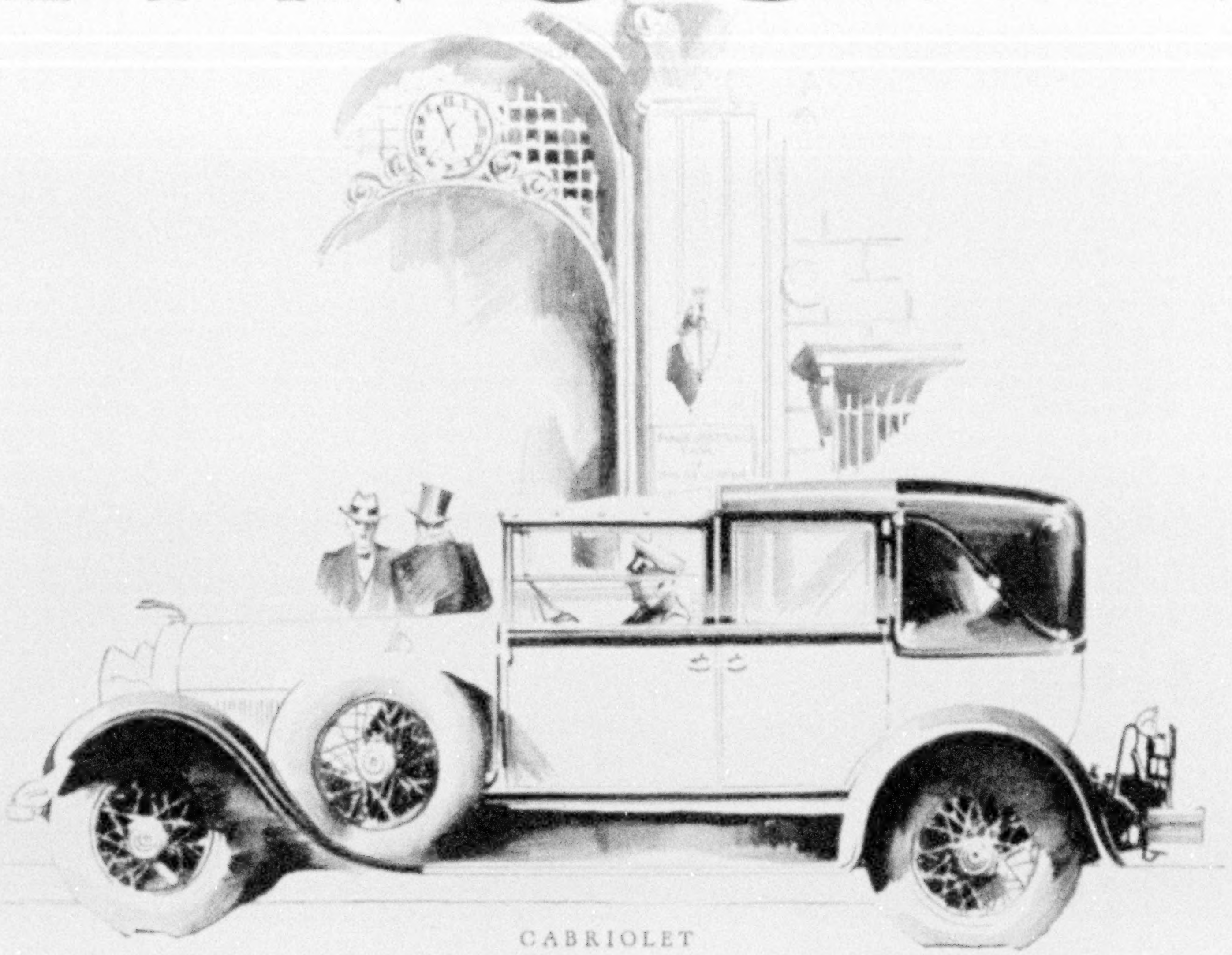

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a peacetime strap watch of wartime strength

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Model 302. Cased by Elgin in chromium plated nickel. Extra heavy crystal. With luminous dial and hands, $21.50. With luminous hands and dot dial $20.00
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Model 301. White or green gold-filled case guaranteed by Elgin. With raised figured dial, $25.00 With luminous hands and dot dial $26.00
With luminous dial and hands . . $27.50

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With raised figured dial $25.00

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With luminous dial and hands . . $21.50

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THE FOUNTAIN OF WATERS
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CHESTER BEACH, *Designer and Sculptor*

THE tinkling music of running water and the beauty of its silver spray has ever charmed the ear and delighted the eye. As it falls from the marble basins of this exquisite "Fountain of Waters" it touches to glistening splendor the lovely groups of figures, emphasizing the pure beauty of the Georgia Marble.

This fountain adorns the park before the Cleveland Art Museum, and ranks in beauty with the Buckingham Fountain, Columbus Fountain, Civic Virtue and Dupont Fountains, which are also of

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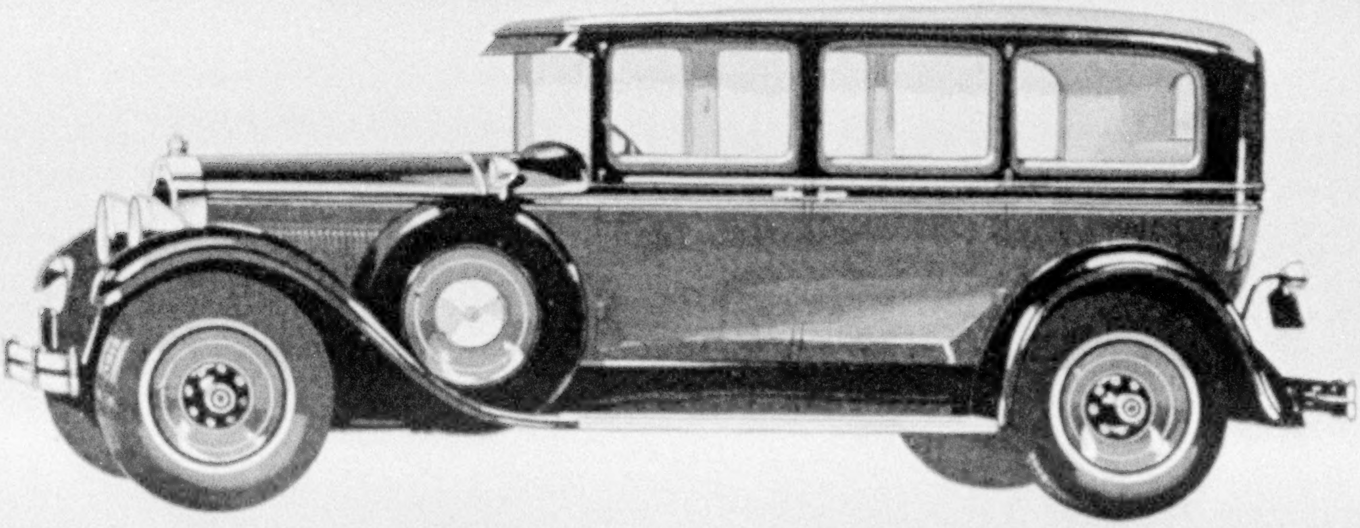

UM

You may admire their snow-white teeth *But . . .*

Forever lurking behind snow-white teeth is a dread foe of health. With sinister effect it attacks neglected gums. It takes as its victims 4 persons out of 5 after forty and thousands younger. It is the disease of neglect . . . called Pyorrhea.

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When you have used Forhan's for a few days you will note a distinct improvement in the way your gums look and feel. Also you will be delighted with the way this dentifrice cleans teeth white and protects them from acids which cause decay.

In addition to this daily care have your dentist examine teeth and gums thoroughly at least once every six months.

If you regard health in the light of its true worth get into the good habit of using Forhan's for the Gums, morning and night. Teach your children this habit and in the years to come they will thank you.

Get a tube of Forhan's from your druggist — today. Two sizes, 35c and 60c. Forhan Company, New York.

This 10 Day Test Will Convince You

Lazy, lethargic gums invite disease. And the only way to keep them firm, sound and healthy is to massage them daily just as a woman massages her face to keep it glowing with youth and free from the signs of age. Forhan's for the Gums is designed for gum massaging. Make this 10 day test. Morning and night, before brushing your teeth with Forhan's, exercise your gums, closely following the directions in the booklet that comes with each tube . . . See how much better they look and feel!

Forhan's *for the gums*

YOUR TEETH ARE ONLY AS HEALTHY AS YOUR GUMS

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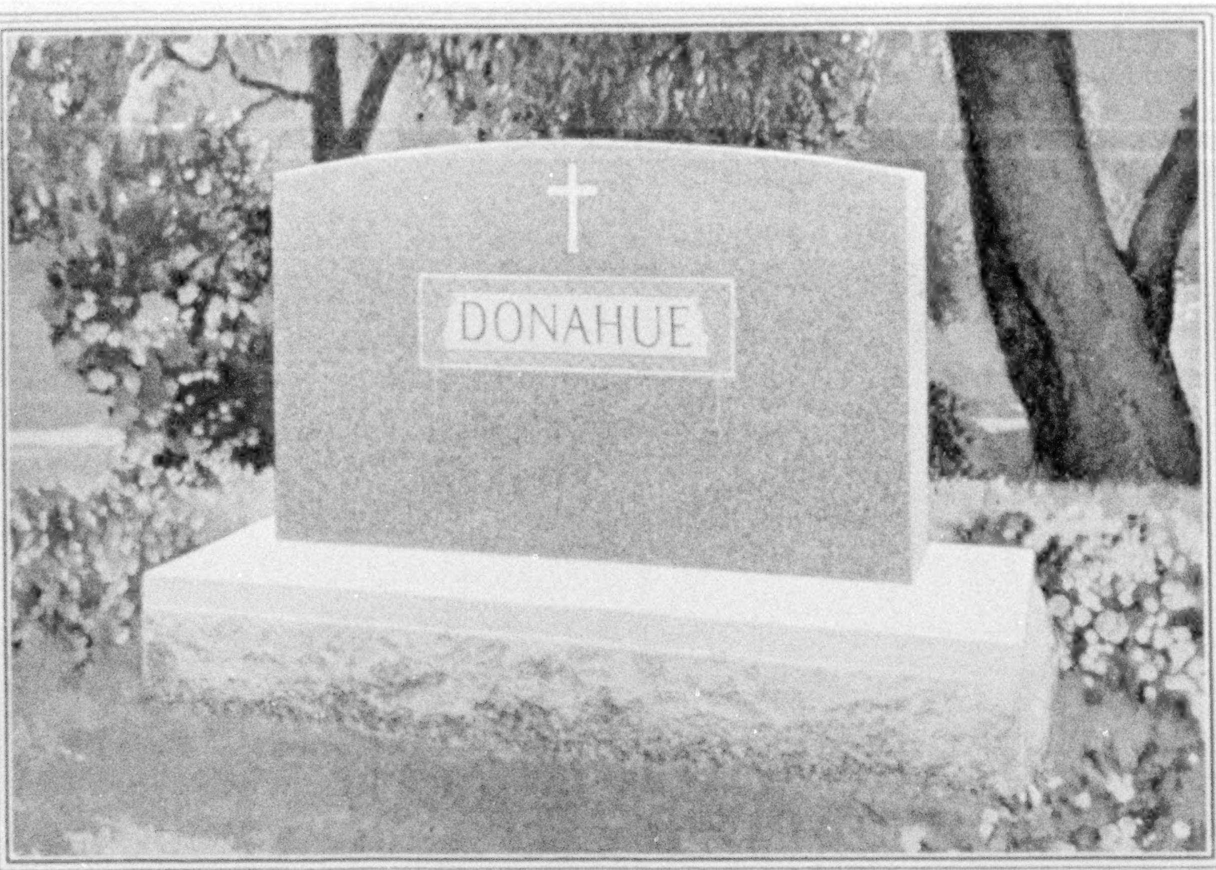

Good Taste—It is easier to recognize good taste than to define it. Yet it is of such supreme importance in memorial art that it is worthy of more than passing mention. Dignity in both material and design are, of course, essential, since anything trivial or grotesque is manifestly out of place. It is important, also, that your memorial be given a correct setting. No matter how beautiful its design, it is ineffective when crowded or out of harmony with its surroundings.

Good Taste in material points directly to Rock of Ages Granite. It is soft and lovely in color and spotlessly pure and even in texture. It is an excellent medium for carving, and is often chosen by sculptors when delicate work is required. Its beauty and purity, too, are permanent, unspoiled by heat, cold, moisture, or the passing of time.

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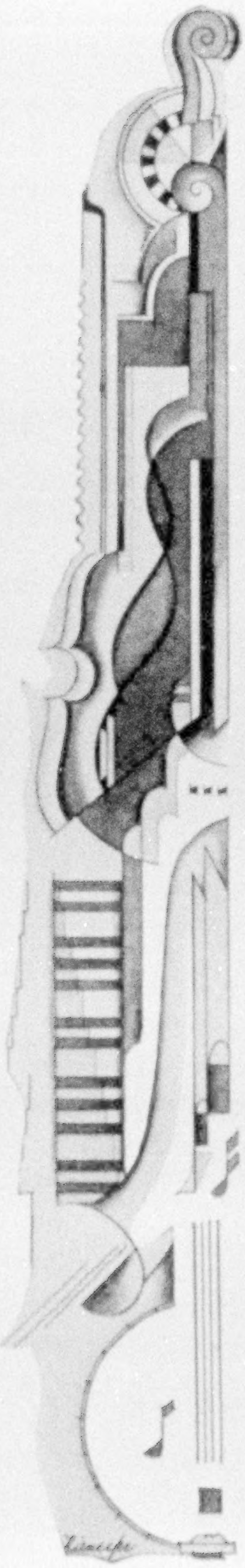
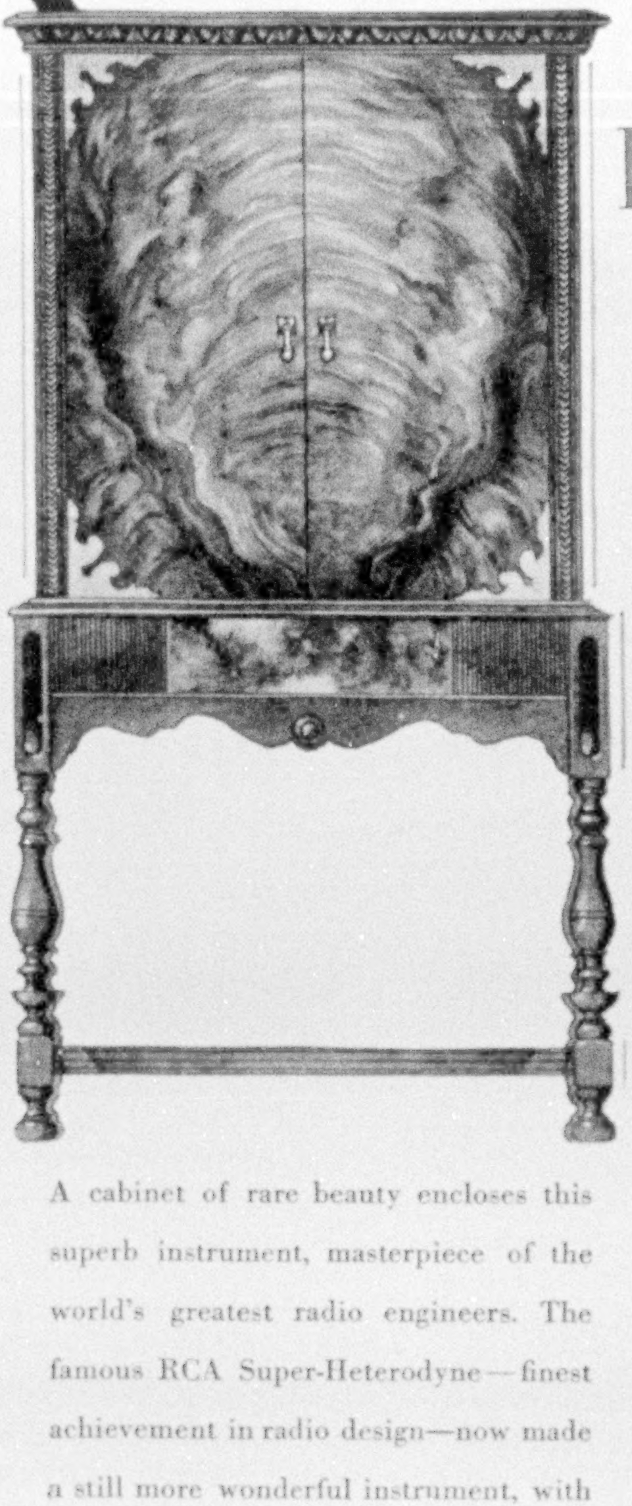
ROCK OF AGES CORPORATION

BARRE VERMONT

RCA





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62

A cabinet of rare beauty encloses this superb instrument, masterpiece of the world's greatest radio engineers. The famous RCA Super-Heterodyne—finest achievement in radio design—now made a still more wonderful instrument, with the new simplified A.C. electric operation, and with the new RCA Dynamic Speaker—the reproducer without a peer. Fidelity of tone over the entire musical range such as has never before been known in radio. $375 (less Radiotrons).

103

RCA
LOUDSPEAKER 103
De luxe model of the famous 100A. The new design and tapestry covering make it highly decorative. $37.50.

60

RCA RADIOLA 60—*Beautifully designed table model of new Radiola Super-Heterodyne with A. C. electric operation. Single control with illuminated dial. Two-toned walnut veneered cabinet. An instrument of wonderful musical range and tone fidelity.* $175 (less Radiotrons).

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Health is something to be thankful for

-safeguard it always

THE best thing about the goodies that come out of a General Electric Refrigerator is that they're always healthfully fresh. This quiet, automatic refrigerator maintains the scientifically correct temperature that checks the growth of bacteria.

For this perfect refrigeration, food must be kept at a temperature *below* 50 degrees—always. Kitchens are almost as warm in winter as they are in summer. That's why correct refrigeration is recognized to be a vital year-round necessity.

The General Electric Refrigerator, perfected after fifteen years of development, is different from all others. It is actually "years ahead" in design. All the mechanism is up on top, sealed in an air-tight steel casing. It is so completely automatic that you never even have to oil it! And it is particularly easy to keep clean.

General Electric Refrigerators are guaranteed for perfect refrigeration—quiet, automatic and economical. If you would like further details, just drop us a card for a new completely descriptive Booklet R-11.

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"Makes it Safe to be Hungry"

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clean... clean... clean...

. . . that is what your dentifrice should do . . . what Colgate's does

If a dentifrice really *cleans,* it need not do anything else . . . medicines, strong antiseptics and harsh abrasives are all unnecessary. Dental and medical authorities advise that a dentifrice should be non-medicated and made to *clean.* The bubbling, sparkling foam of Colgate's is a dental cleanser unsurpassed. It leaves your teeth white . . . your mouth refreshed. It does its work thoroughly. And *safely*—safely for a lifetime of use.

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Constant research and continuous testing of all new theories have failed to show a way to make a more effective dental cleanser than Colgate's.

The coupon brings trial tube, free

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We have a trial tube of Colgate's for you. Fill out and return the coupon and it will be mailed promptly. We will send also a copy of an interesting new booklet on mouth care.

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Gentlemen: Please send me the booklet, "How to Keep Teeth and Mouth Healthy," and a trial tube of Colgate's Ribbon Dental Cream.

Name____________________

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MORE AMERICANS USE COLGATE'S THAN ANY OTHER DENTIFRICE

Wild Turkeys Browned and Golden

and venison and purple grapes

for these *we offer thanks*

FROST came with the nights. The corn stalks withered and the hills were fire and scarlet. Partridge drummed and a fox barked behind the ridge. The stockade gates were shut. Out of New Hampshire rose the Harvest Moon.

"For these we offer thanks." A voice in the wilderness raised in thanksgiving . . . spreads and becomes the voice of a continent. A settlement grows and becomes a nation. Each year the nation offers thanks for the harvest. Each year the harvest is richer . . . in happiness . . . in material prosperity . . . in the joy of living.

* * * *

A great part of the harvest of America today is the harvest of industry. Endless research and experiment, a divine curiosity, the open mind, these have brought new products and a new and better way of living. And part of the march of progress, contributing to a safer, happier life, is Frigidaire, the automatic refrigerator . . . now providing priceless health protection in over 500,000 successful installations.

But Frigidaire has not been satisfied with this achievement. And now, after 16 years of constant experiment, twelve years of practical experience in production, comes the New Frigidaire . . . beautiful, powerful, convenient, incredibly quiet . . . an entirely new conception of automatic refrigeration. The New Frigidaire has reserves of power for *every* emergency. Its cabinets are built to harmonize in line and color with the modern kitchen. It is incredibly quiet in operation.

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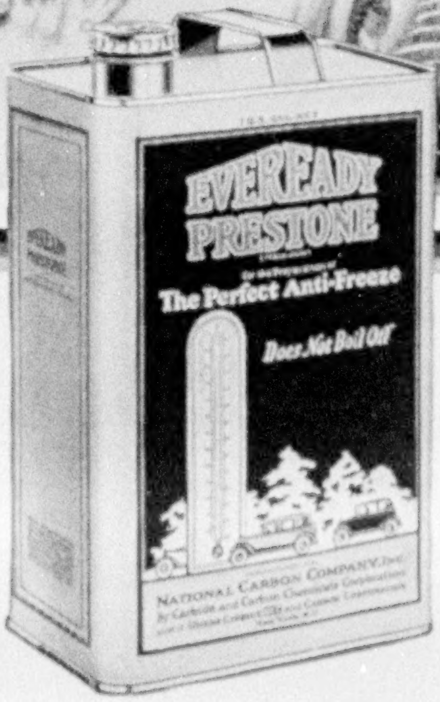

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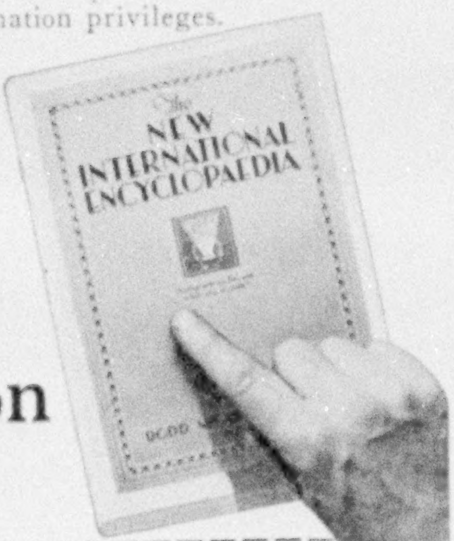

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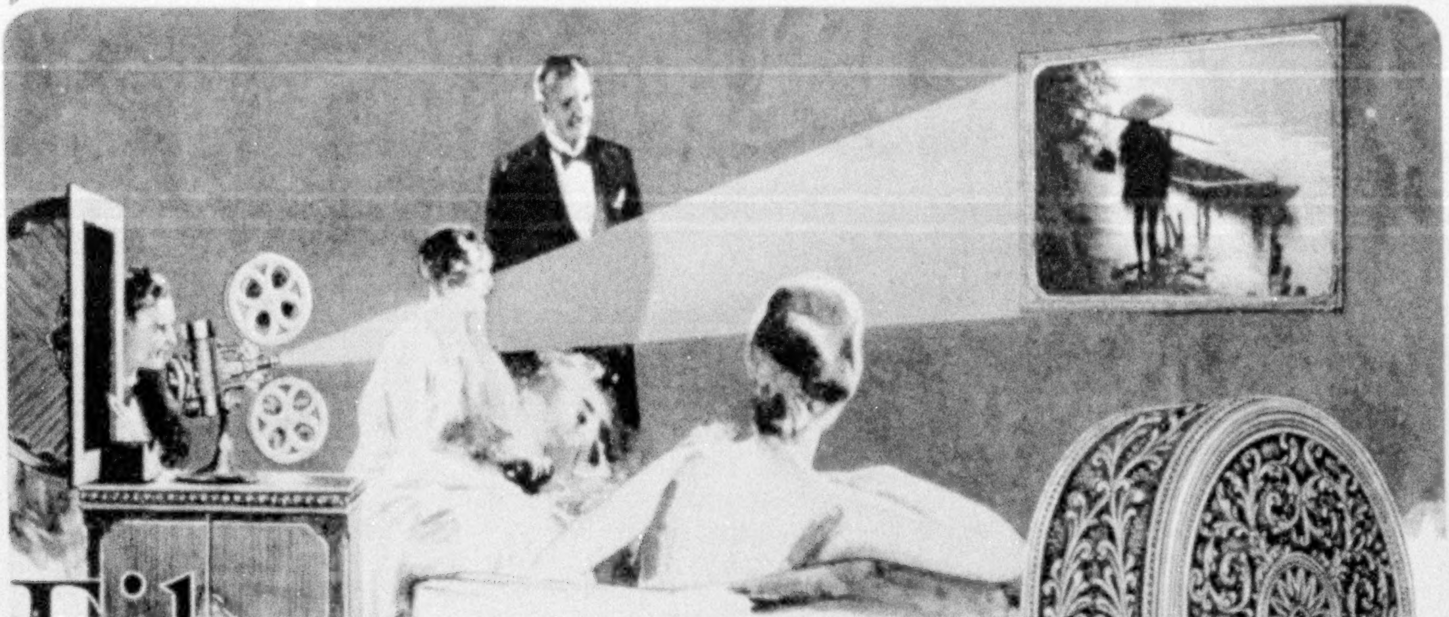

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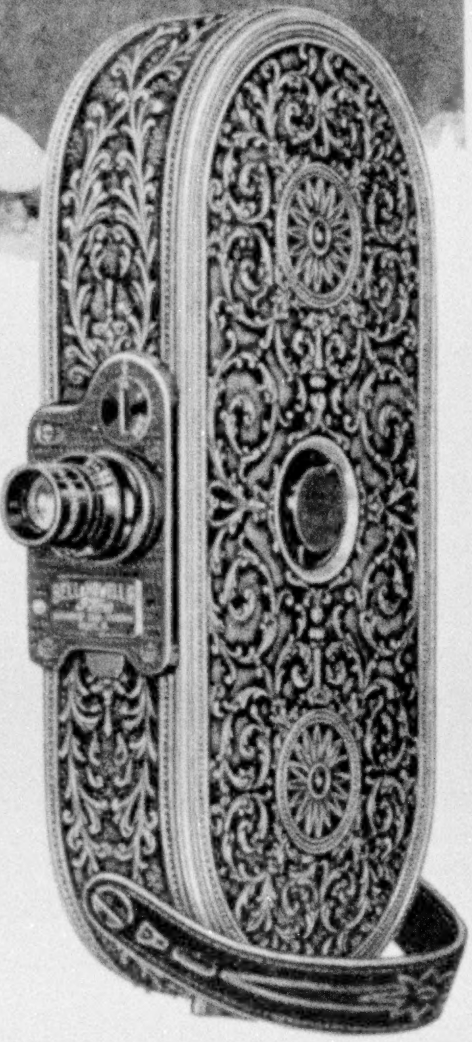

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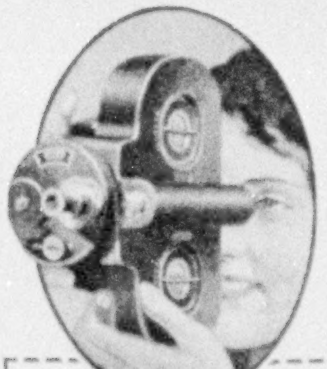

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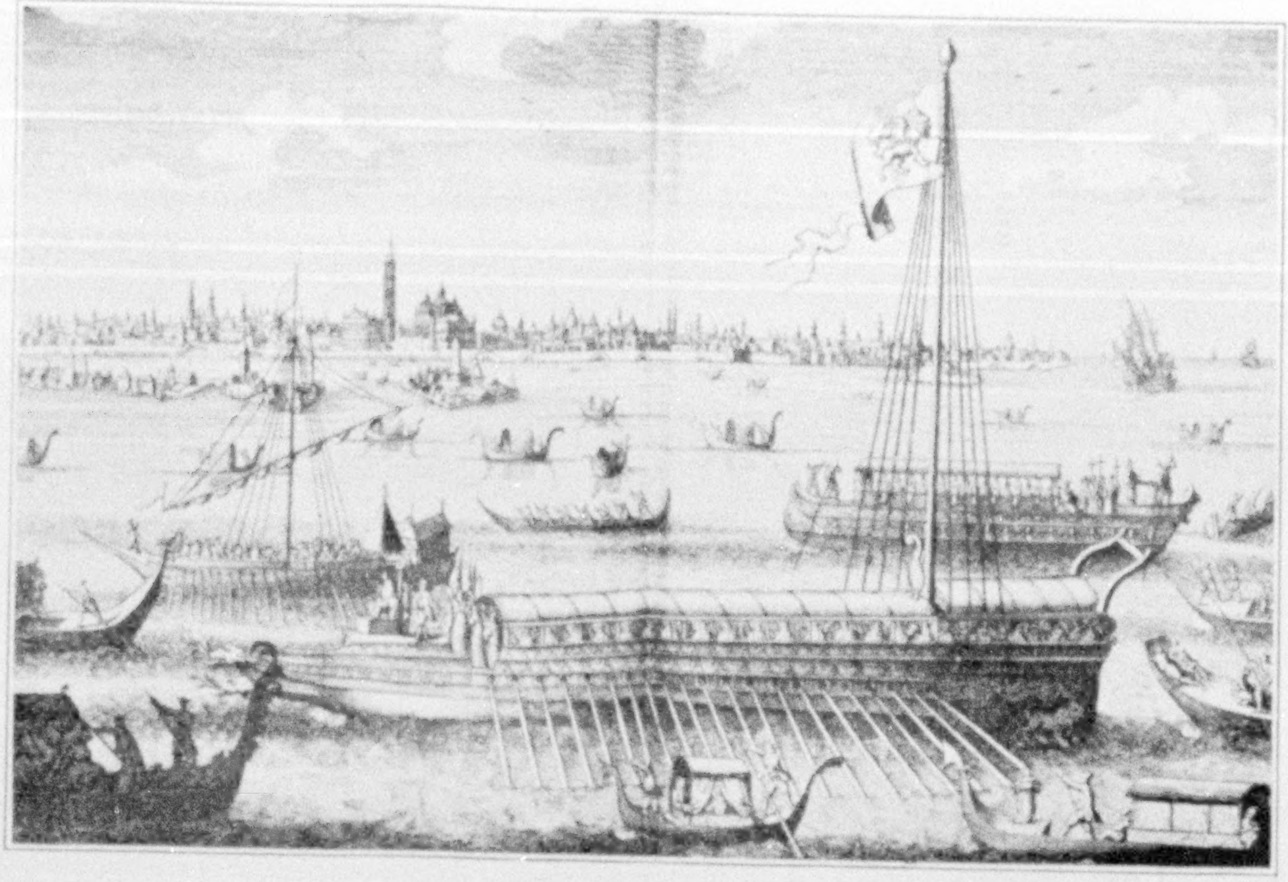

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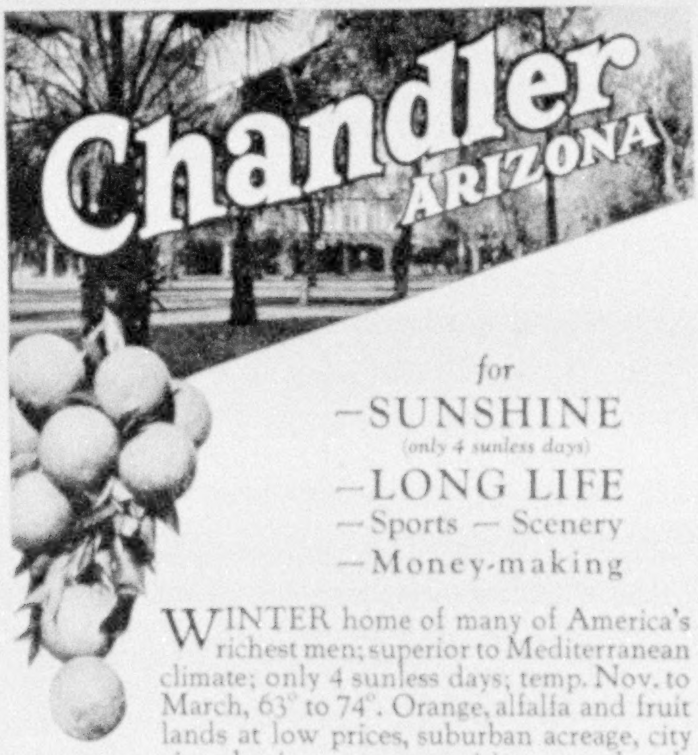

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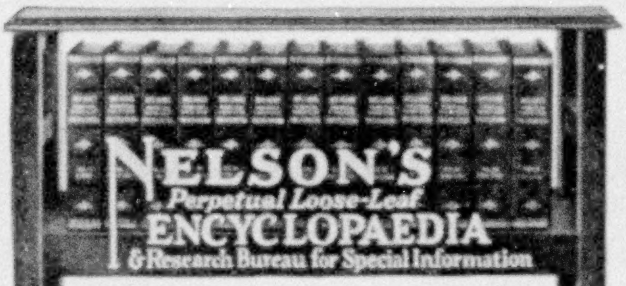

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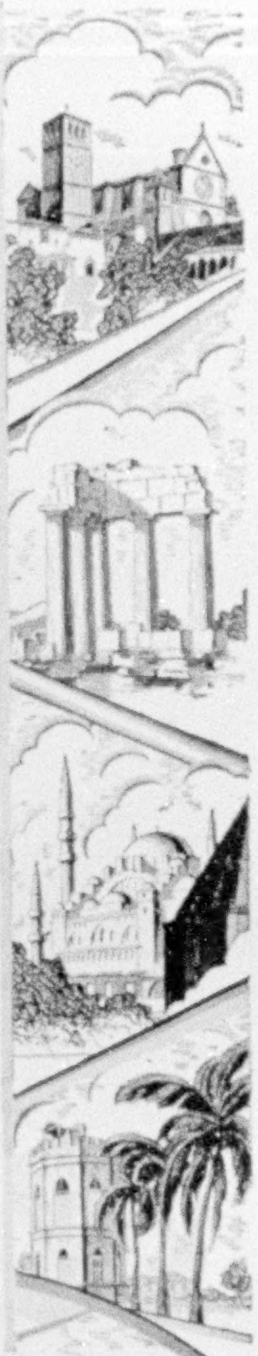

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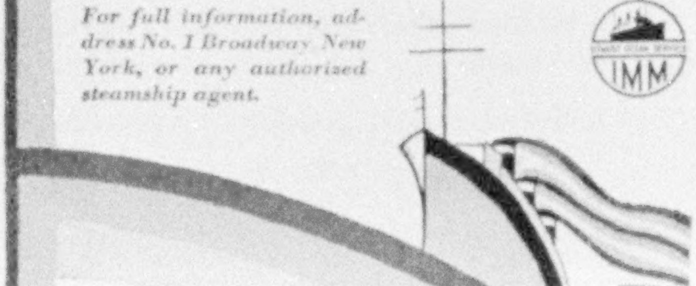

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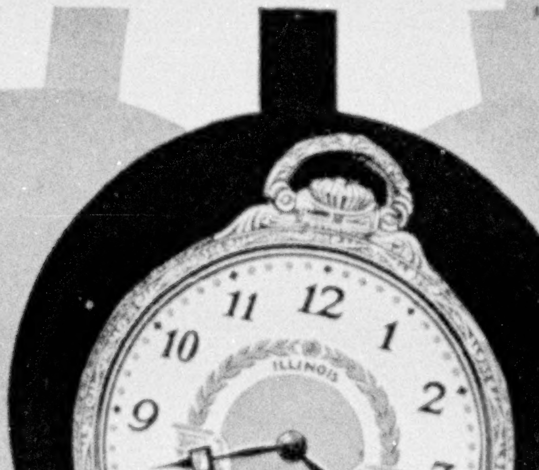

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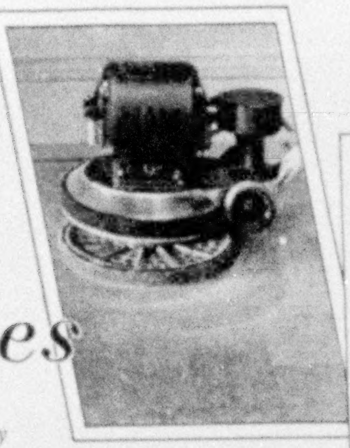
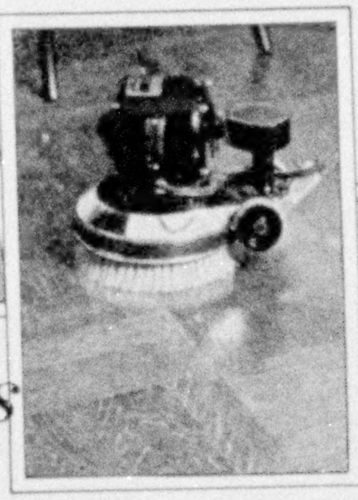


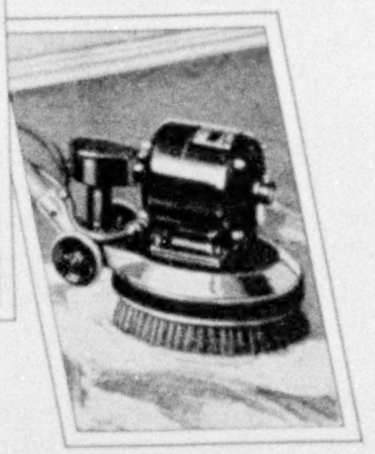
Scrapes

Takes off the old dingy shellac or varnish and sandpapers the wood to velvet smoothness.



Polishes

Waxes the floor and then polishes it. Result is far superior to handwork and you use much less wax.



Scrubs

Here's the way to clean tile, cement or marble floors. Fast. Efficient. No back-breaking drudgery. No splashing.

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The electrical way of doing over floors. Plug into an electric light socket like a vacuum cleaner. You don't even push or pull — you merely guide the machine.

YOU'D be surprised how beautiful your floors *could* be.

They may look dingy and disreputable now, but how they'll gleam and glisten when done over the *electrical* way.

Instead of pulling rugs over the ugly worn spots, as you may be doing now, you'll be so proud of the lovely finish that you'll hate to cover up a single inch.

Can't you picture how much better your furniture will look . . . and your draperies . . . and rugs!

Can't you just hear your friends asking whether you've had a *new* floor put down?

How amazed they'll be when you tell them that you actually did over your old floors *yourself*... that the marvelous improvement was entirely due to *your own* efforts!

Yet that's just what you *can* tell them. The Ponsell Electric Floor machine enables you to scrape, sandpaper, wax and polish your old floors without bringing a single workman into your home.

To good to be true? Not a bit of it. That's only *one* of the advantages. In addition, you save money because the machine costs but a fraction of what a contractor would charge you to do over your floors.

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It's astonishing how quickly and easily floors can be done over with the aid of electricity. The *head*-work YOU do; the *hard* work you leave to the machine.

You plug into a socket just as you would with a vacuum cleaner. In a few minutes you are running the Ponsell like an expert and your floors are on the way to a vast improvement.

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But when you do them over the Electric way, you never have to refinish them again and, what's more, the machine takes care of them for you forever after.

A few minutes' polishing each week, an occasional rewaxing (operations which the Ponsell makes absurdly easy), and your floors become the constant envy and admiration of your friends.

The machine brings you other important benefits—more than there is room to describe here. So—while the subject is fresh in your mind—send in the coupon for a complete description.

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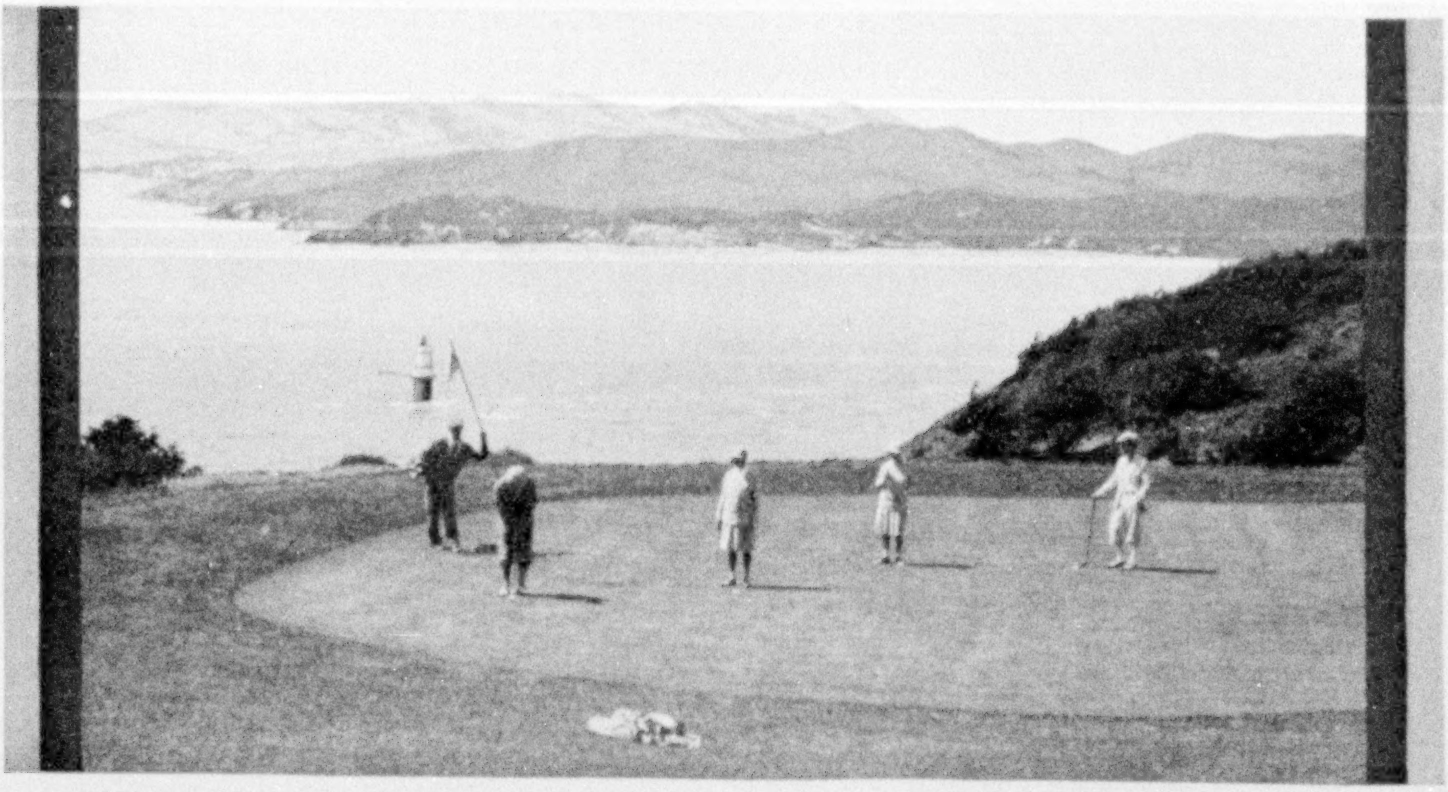

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Often you hear them say, "What's the use of voting? My vote won't change the result." Many of the men and women who should have cast their ballots in 1924 must have talked like that, for only 52 percent of them voted.

America has faced many crises. She has made laws, amended laws, abolished laws. She has kept step with changing world conditions. But many old problems remain unsolved. New ones will arise. Your government will be as sound and wise as you and other Americans make it. You have great responsibility and great power. It is your duty to exercise that power. And the way to exercise it is through your vote. Do not neglect it.

By failing to vote, you offer encouragement to the political plunderer and other unscrupulous persons who are eager to profit by the opportunity you give them. Only by voting can the majority of Americans holding like opinions dictate their wishes and save themselves from the danger of being governed by a minority holding opposite opinions.

Your next President will not be a despot or a dictator. He will not make or unmake laws, but he has great power and influence and will go into office bound to use them to bring about the kind of government wanted by those who elected him.

Once in four years you are called upon to vote for a President and thereby help to solve great problems. Let no private affairs prevent you from doing your duty to your country on Election Day.

Be a good citizen. Go to the polls on November 6th and vote.

In 1920, 54,053,000 citizens of the United States were eligible to vote. Only 26,674,171 voted—approximately 49 percent. In 1924, out of a total of 56,215,000 men and women who should have voted, only 29,091,417 did—about 52 percent.

Most good Americans are willing to abide by the will of the majority. The trouble is that many of us are not sure that the will of the majority is being expressed.

When about one-half of the voters neglect their duty the country is governed not by a majority of the people—but merely by a majority of the minority.

In 1928 America needs every possible vote so that the will of the real majority may be known. No one else can speak for you on Election Day. Speak for yourself. Vote.

HALEY FISKE *President.*

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THE NATIONAL GEOGRAPHIC MAGAZINE

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THE WORLD'S GREATEST OVERLAND EXPLORER

How Marco Polo Penetrated Farthest Asia, "Discovered" Many Lands Unknown to Europe, and Added Numerous Minerals, Animals, Birds, and Plants to Man's Knowledge

By J. R. Hildebrand

Author of "The Pathfinder of the East," "The Sources of Washington's Charm," "Man's Progress in Conquering the Air," "The Columbus of the Pacific," etc., etc., in the National Geographic Magazine

With Frontispiece, in Colors, of the Eastern Hemisphere, "Map of Discovery," by N. C. Wyeth

THEIRS, surely, was the strangest home-coming in exploration history.

They stepped ashore in Venice one late afternoon in the nineties—the nineties of the 13th century—a bedraggled, weather-beaten trio, in queer, coarse garments. Their faces were leathery and bronzed, scorched perhaps, by tropic sun, yet scarred as if they had been frostbitten, too.

The older men seemed listless and their eyes were dull, perhaps from seeing too much; the youngest was the striking figure—erect, bushy-haired, black-bearded, alert to every prospect.

Haughty, beautiful Venice, he observed, was little changed, even after 24 years. He led the way across the stately Piazza. There were the four huge horses from Stamboul, the marble columns from Acre and the Doge's regal Palace; then they passed the gorgeous shops of the silkmakers, the rainbow assortments of the glass-workers, and the booths, with their precious stones, their polished ivories, and their keen, slender swords with the bejeweled hilts.

Their nostrils and their ears also knew Venice. Pungent spice odors gave aromatic reminder of new commerce in distant parts now augmenting the city's staple trade in salt and silks. Diverse merchant ships from three continents stirred the faint, familiar lapping of the water along the canals, and, crowning touch, there was a war galley ready to put out for the inevitable foray upon Genoa.

A queer trio, but they attracted little more attention than would an alien to-day on Galata Bridge. Indeed, they rubbed elbows with sleek Spaniard, swarthy Muscovite, kilted Scot, and fierce, frowning Bulgarian.

UNRECOGNIZED BY THE SERVANTS

Blasé, sophisticated Venice! It knew its "world"; it saw ships from every port; its wools, and silks, and saffron, and oils went to every fair; yet it was about to have a whole new world thrust upon its attention!

Photograph by Maynard Owen Williams

THE MOUNTAINS MADE FAMOUS BY NOAH

From a plateau flecked with ruins serenely rise the "Mountains of the Ark," whose ascent Marco Polo deemed "impracticable." The two Ararats are familiar to the Christian world as one of the first definite geographic locations mentioned in the Biblical narrative, but they are a national shrine of the newborn Armenia for another reason: from their slopes the Armenians could gaze upon strips of their partitioned lands, annexed by Russia, Persia, and Turkey, and dream of a restored Armenia—a dream that came true at the close of the World War.

Twilight was failing, torches began to flare like fireflies along the canals; so the three Polos — father, son, and uncle — hunted out their home.

The servants, naturally enough, would have turned them away. The pounding and the argument brought down the master, a distant cousin, fallen heir to his share of the property of the long-missing merchants.

There must have been lengthy explanations. Yes, they were Nicolo Polo, and Maffeo, and "young Marco," right enough. True, Marco was only 17 when they started out, but boys grow up, don't they? He is more than 40 now. Where had they been? "Hitch-hiking," as we would phrase it, across Asia and visiting places whose very names were unknown to Venice.

Perhaps a display of their golden passports, or a glimpse of the rubies from Badakhshan and the jade from Turkestan, gained them a hearing—and supper. What Venetian would not heed the rumor of a new source for gems or another overseas market?

THE RIALTO LAUGHS AT THE POLOS' TALES

But the tales the wanderers began to tell, after the table was cleared and the sugar-cane rum gave way to the homely red wine, were not credible, either then or for several hundred years to come.

Next day the furriers and tanners and

Photograph by Maynard Owen Williams

THE FAT-TAILED SHEEP SATISFIES THE SWEET TOOTH OF THE ARMENIAN

These animals, described by Marco Polo, have their tail bones flanked with a fat prized in making pastries, which to the novice are highly indigestible (see, also, text, page 525).

tapestry makers were laughing with their host; the stories soon traveled all along the Rialto.

"These fellows tell about sheep with tails that weigh 30 pounds! They say people in Cathay dig up stones for fuel, and the Tatars have houses as big as palaces that they haul about on wheels. And they found a mountain of salt, saw people mining a liquid that would burn and wool that wouldn't, and they beheld 'snakes' 30 feet long!"

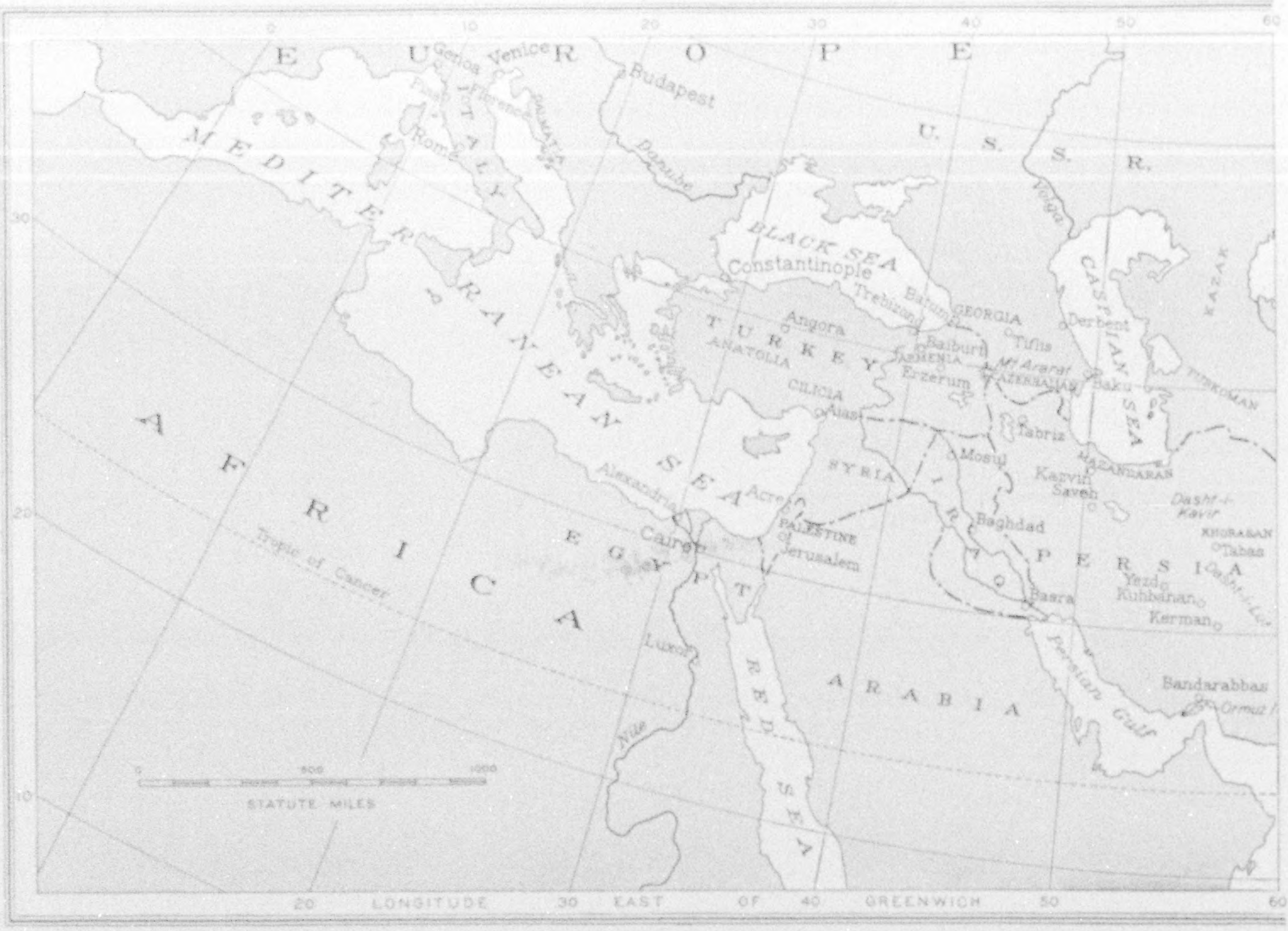
"Yes," chimed in the wise little accountant with the quill behind his ear. "And one of them says they drink their wine hot in Cathay, and it goes to a man's head quick as lightning; their stories sound as if they brought some back."

"But if you would hear a tall tale," advised the pork dealer, "get the young chap to tell you about this great Doge, or Khan, he calls him, who has a million soldiers, and a million acres in his park, and a million retainers, and a million or so of everything! He is so great only 12 men may talk to him; but, if you believe Marco, he takes in this stranger, makes him an ambassador and a governor of a city, and then sends him around his country to report what else he has a million of!

"So I asked Marco how this mighty prince came to set so much store by him. And the fellow tells me (which is Marco's own explanation) that when this prince sent out ambassadors they came back and made long reports and would talk of nothing but business. But the prince vowed he would far rather hearken unto strange things and the manners of other countries. So our young Venetian carefully picks up all sorts of stories wherever he goes and sets them down in a notebook, and when he comes back he tells the prince all the novel and curious things he saw and heard.

"With that the King is so pleased he sends him out again and again, and keeps him on the payroll, and only lets him come home because he wants to send a beautiful maiden over to be the favorite wife of the Khan of Persia!"

"That accounts for these yarns," con-



MAP SHOWING THE SCOPE OF MARCO POLO'S TRAVELS

"He was the first traveler," wrote the late Sir Henry Yule in his famous summary of Marco's achievement, "to trace a route across the whole longitude of Asia, naming and describing kingdom after kingdom which he had seen with his own eyes; the deserts of Persia, the flowering plateaus and wild gorges of Badakhshan, the jade-bearing rivers of Khotan, the Mongolian steppes, cradle of the power that had so lately threatened to swallow up Christendom; . . . to reveal China in all its wealth and vastness—its mighty rivers, its huge cities, its rich manufactures, its swarming population, the inconceivably vast fleets that quickened its seas and its inland waters; to tell us of the nations on its borders, with all the eccentricities of manner and worship."

cluded the veteran cheesemonger. "But our Doge isn't engaging traveling salesmen to tell him funny stories—not this season. He had better move along and try his tricks on the Greeks; they like these fanciful tales."

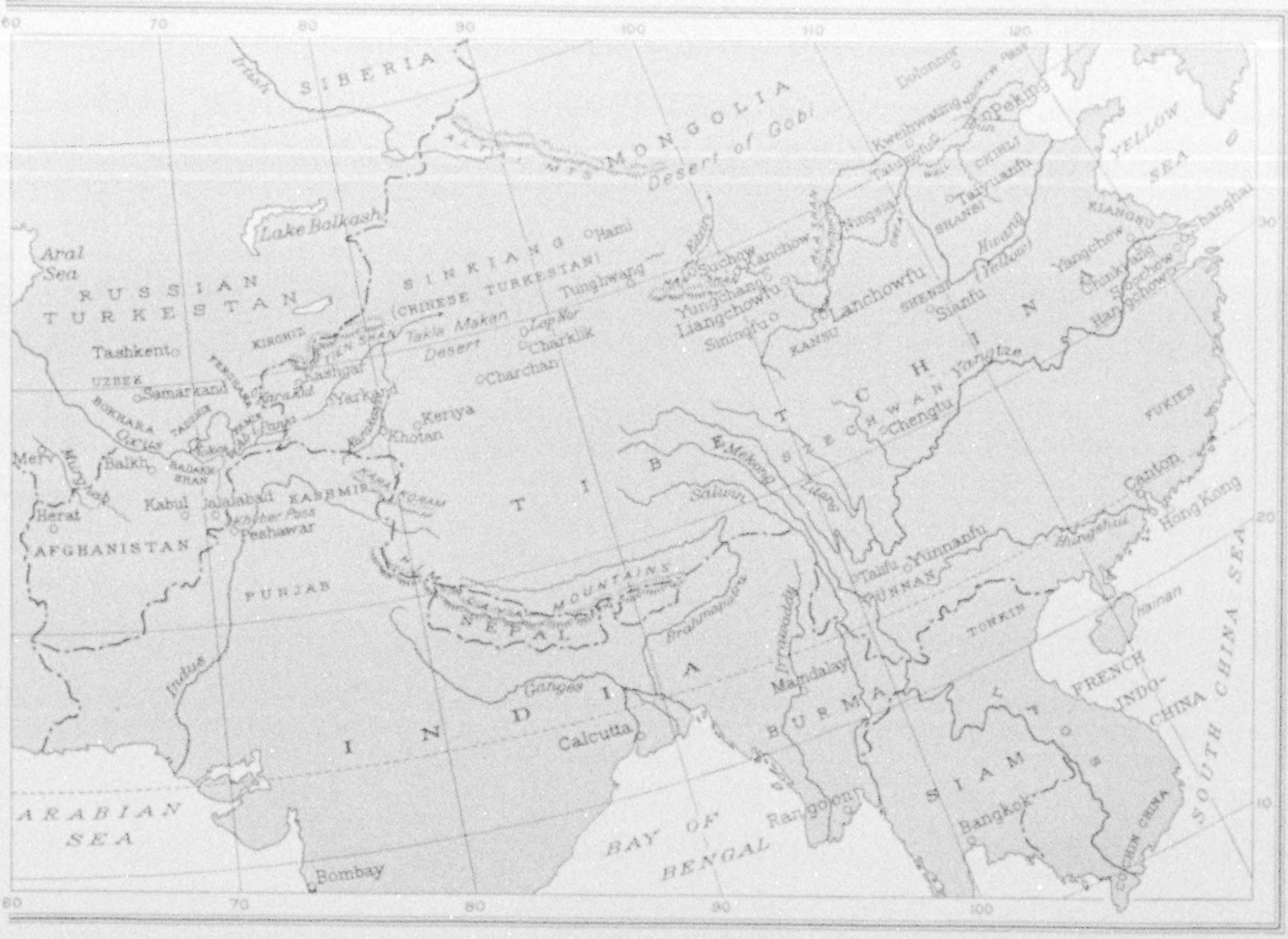
STAGING THEIR OWN GEOGRAPHIC LECTURE

Thus it came about that the great traveler had to give his own geographic dinner in order to tell about his expedition and prove his identity.

He staged it in his old home with "great state and splendor." When water for hands had been served, the three Polos emerged from a private chamber in robes of crimson satin. These they immediately took off, cut into strips, and distributed the cloth to the diners, while they donned other robes of crimson damask. After the guests had partaken of some of the dishes, they disrobed again, distributed pieces of these garments as souvenirs, and put on even more beautiful robes of velvet. A brief respite and these were discarded, cut up and distributed, while the Polos donned the dress of the current fashion.

"These proceedings," it is related, "caused much wonder and amazement among the guests."

But the dénouement was yet to come. When all had finished eating the servants were sent from the room, the doors were bolted, and the trio went again to dress. This time they emerged in the ragged and worn attire in which they had come ashore. Then, to the astonishment of the company, they proceeded to rip these garments along the seams and welts, and there poured forth on the table vast quantities of pre-



Drawn by A. H. Bumstead

WHERE KUBLAI KHAN HELD SWAY IN MARCO POLO'S TIME

"In Asia and Eastern Europe scarcely a dog might bark without Mongol leave, from the borders of Poland and the Gulf of Scanderoon to the Amur and the Yellow Sea." Kublai Khan wielded the mightiest one-man power the world has ever known, over the vastest realm in the history of conquest. To the places revealed by Marco Polo, mentioned on the preceding page, might also be added Tibet, Burma, Japan, Sumatra, India, Madagascar, and Ceylon, which he either visited or described from information gleaned from Far Eastern sources. Modern cartography has modified or changed the names of many of the places, and the current designations are used on this map, but most of the places themselves are examples of the unchanging East, where life goes on to-day much as it did in Marco's time.

cious stones, rubies, sapphires, emeralds, and huge diamonds. All had been stitched up so artfully in their clothing that they could travel without suspicion.

This display served, at least, to establish the identity of the Polos. Marco's simple explanation of how he obtained them, by exchanging the cumbersome gold Kublai Khan had given him for a more compact form of wealth, was not so readily believed.

Marco may have related how he was the first European to cross the vast breadth of Asia, daring the bone-strewn Pamir passes, escaping murderous bands of nomads, entering the wild gorges of Badakhshan, plodding the scorching, deadly wastes of the Gobi. He may have answered questions about fabled Baghdad, mysterious Mongolia, the jade-bearing rivers of Khotan, or the lofty plateaus of Afghanistan, concerning all of which Europe was curious.

Or he may have launched upon the first Western eyewitness account of sordid Tibet, of marvelous Japan, of Burma's golden pagodas with the tinkling bells, of the lost tribes of Christians in Ethiopia, of the eccentric devotees and mountain-top diamond mines of India.*

But is it not more likely that he would tell first of the noble cities, broad rivers, and strange products of China; above all,

* Here and elsewhere modern names are used to avoid confusion arising from the obsolete nomenclature of the time of the Polos. There are a number of lapses in their route, but their itinerary can be broadly traced in terms of to-day by the map on page 508 and above.

Photograph by Maynard Owen Williams

A WATER WOMAN OF THE GEORGIAN ROAD

Travelers from the time of Marco Polo to THE GEOGRAPHIC's own staff representatives proclaim the Georgian women to possess marvelous beauty of carriage and feature. When photographed, however, they frequently are as disappointing as the village beauty who will not "register" with the moving-picture camera when misguided friends urge her to seek out Hollywood.

of the power of Kublai Khan, mightiest overlord of all peace time, whose vast empire spanned Asia from the Volga to the Yellow River, and reached from Siberia's bleak steppes to India's fertile Punjab plains?

HUNTING IN AN ELEPHANT CHAIR

"We think of our Doge as being truly regal," we can imagine him saying. "We see him borne through the canals enthroned on his ivory chair, wearing his silk mantle fringed with gold, and the lighted tapers set up a sparkle in all the jewels of his biretta.

"But let me tell you how the Great Khan goes hunting [and this is the gist of Marco's own description of a later date]. He has two Barons, each of whom has 10,000 men under his orders.

"Each body of 10,000 men is dressed alike, the one in red and the other in blue. When His Majesty sets out, one of these Barons, with his 10,000 men and some 5,000 dogs, goes toward the right, while the other goes toward the left in like manner. They move along abreast, so the whole advancing line extends over a full day's journey, and no animal can escape them.

"Truly, it is a glorious sight to see the working of the dogs and the huntsmen on such an occasion!

"And as the Khan rides a-fowling across the plains, you will see these big hounds come tearing up, one pack after a bear, another pack after a stag or some other beast, running the game down now on this side, now on that.

"The Emperor himself is carried upon four elephants, in a fine chamber made of timber, lined with plates of beaten gold, and covered with leopard skins. He always keeps beside him a dozen of his choicest gerfalcons and is attended by several of his Barons, who ride horseback alongside.

"And sometimes, as they may be going along, one of the Barons exclaims, 'Sire, look out for the cranes.' Then the Emperor instantly has the top of his compartment thrown open, and, having marked the cranes, he flies one of his gerfalcons,* and

* See "Falconry, the Sport of Kings," by Louis Agassiz Fuertes, in the NATIONAL GEOGRAPHIC MAGAZINE for December, 1920.

Photograph by Maynard Owen Williams

IT MIGHT BE TEXAS, BUT IT IS AZERBAIJAN

Marco made his first great trade discovery when he noted that in Georgia were certain "fountains" from which sprang oil "that is good to burn." That fact seemed to him a freak of nature; the use he recommended for the oil was to "anoint camels that have the mange" (see text, page 518). This oil fire in the region of Baku is crumbling the steel walls of the tank.

often the quarry is struck within his view; so that he has the most exquisite sport and diversion there, as he sits in his chamber or lies in his bed."

This recumbent mode of following the chase, a truly oriental touch, is explained by Marco on the ground that His Majesty suffered from the gout.

One more story he may have told that night. He did relate it later in Venice, and it helped discredit his entire narrative. This was the vivid and accurate description of the Great Khan's palace.

THE PALACE WITHIN A MAZE OF WALLS

The Winter Palace at Peking, set in a maze of walls, Marco explained, was a literal Chinese puzzle. The outer rampart was eight miles on each side. Between this wall and a ditch and an inner wall troops were stationed. Inside the second wall were eight spacious buildings, where military stores were kept; one for bridles, saddles, stirrups, and other cavalry equipment; another for bows, strings, quivers, saddles, and stirrups for the archery, and so on.

Within this second wall was a third barrier, 25 feet high and very thick, containing eight other buildings, all devoted to the Emperor's wardrobe; also, behind the innermost walls, was the palace, "the most extensive that had ever yet been known." It rested upon an immense platform of marble, the outer edge of this embankment affording a promenade, protected by a marble balustrade.

The palace halls were plated with gold and carved with figures of dragons, beasts, birds, warriors, and "idols," as Marco termed the figures of Buddha, while on the lofty ceiling were paintings and designs in gold and silver. The approach was by marble staircases on each side.

In the grand hall of this palace the Khan could entertain 6,000 people at dinner. Surrounding it was a multitude of smaller halls and chambers, and to one side were the apartments where the monarch had his treasures of "gold and silver

THEY WORSHIP THE DEVIL AND WEAVE SILK

The curious religion of the Yezidis, whose devil worship is a perversion of the earliest Christian teachings, has engaged students of religious beliefs, but the beautiful textiles their women wove particularly interested the practical Polos. These two women of present-day Iraq are using a handmade instrument to work flax into tissues, just as they did in Marco's day.

bullion and vessels, gems, pearls, and his wives and concubines." The order of listing is Marco's.

The exterior of the palace roof was painted vermilion, green, azure, and violet, "fixed with a varnish so that they shine like crystal"—reminder that China's tung oil to-day contributes to American woodwork's polish—and these colors were visible for miles. The glazing of the windows also was wrought in delicate shades.

But the arrangement of the Great Khan's palace and park, and his administration of his domain, as we shall learn, betokened far more than mere barbaric magnificence, such as that which Vasco da Gama found at the court of the Zamorin of Calicut.*

Areas between the walls were planted with trees; others were stocked with game. The roadways were raised three feet or more above the level of the grazing lands and paved, "so that no mud collects or rainwater settles, but runs off to improve vegetation."

* See "The Pathfinder of the East," by J. R. Hildebrand, in the National Geographic Magazine for November, 1927.

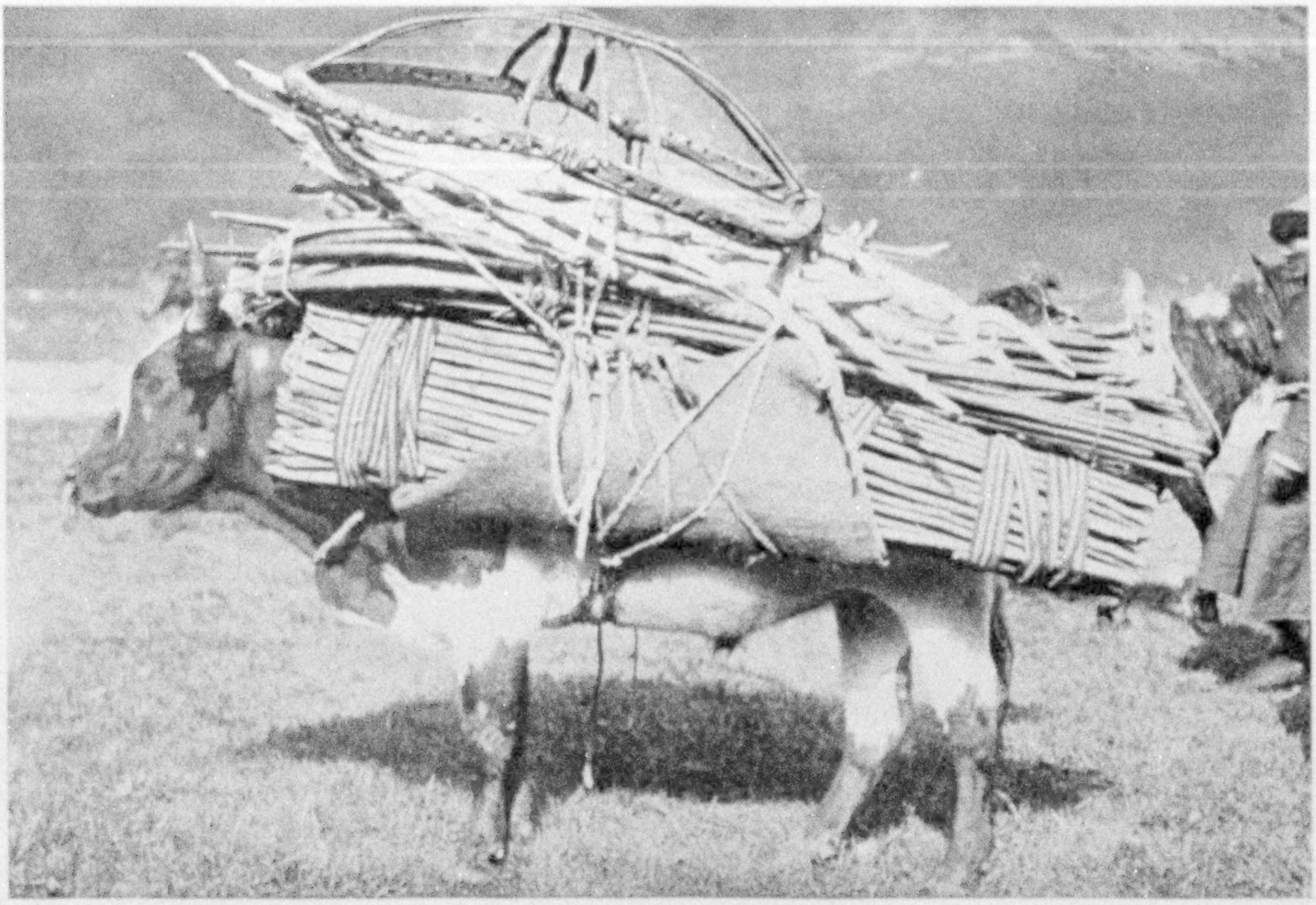
A striking object was a huge artificial mound, serving as an arboretum, for whenever the Khan learned of a beautiful tree "he sent for it and had it transported bodily, by elephants, all its roots and earth attached, and planted on this hill of his." On the summit was an ornamental pavilion with a commanding view.

The excavations from which the earth was taken for the mound the Khan had converted into lakes, and one of these he stocked with a "great store and variety of fish."

FINDS "NEW" COUNTRIES OF THE OLD WORLD

Venetians knew of the Mongols and the mighty Genghis Khan's successors, and all Europe dreaded them; so they set down Marco's tales of Kublai as exaggeration; but when he came to tell of Yünnan and Siam, Sumatra, Java, and Ceylon, they charged him with sheer invention.

Yet, strangely enough, one might have gone shopping in Venice that very afternoon for rings set with Golconda diamonds,



Photograph by Dr. Franz Stoedtner

MOVING DAY IN TRANS-CASPIA

When the nomad Kirghiz, masters of the Russian Turkestan steppes, would move their camels, sheep, horses, and goats to better grazing grounds, they dismantle their yurts and pack the felt and poles on the backs of oxen (see illustration, page 536). The circular frame on top of the load crowns the edifice when erected and permits a hole to be left in the felt sheathing, through which smoke of the yak-dung fire within may escape.

for pearls from Ceylon or spices from Java. The scoffers probably were clad in silks from China and Persian rugs adorned many a Venetian noble's palace.

Venice fattened as the Mediterranean middleman for the products of the very places Marco was the first to tell them about. But her merchantmen obtained them only at the ends of the long, twisting Moslem caravan trails, where they were laid down at Palestine and Syria ports which were Christian relicts of the dying Crusades; or at Alexandria, where the tolls of the Mameluke sultans added 200 per cent or more to their India cost price. A few adventurous Genoese traders had penetrated to Tabriz.

Marco's mercantile achievement lay in blazing a new silk route across Asia, which was as romantic a trade trail in the Middle Ages as is to-day's steamer-rail silk race course across the Pacific and Canada from Yokohama to New York. Before many years Florentine merchants were relating how their agents brought back, by pack asses, horses, and camel wagons, cargoes of silk worth $60,000 in our money, across safest Asia.

Marco Polo and Kublai Khan made that possible. Kublai Khan, because a century earlier or a century later Marco Polo could not have made his journey. Only during the respite when these Mongol nomads had battered down the Moslem ring around the Levant were Europe, China, and India linked by commerce. When the Mohammedans again threw their barrier realm around Palestine, Anatolia, and Arabia, this contact was snapped off. Voyages of Vasco da Gama and of Columbus himself, who carried a letter addressed to the reigning Great Khan, were efforts to restore that commerce.

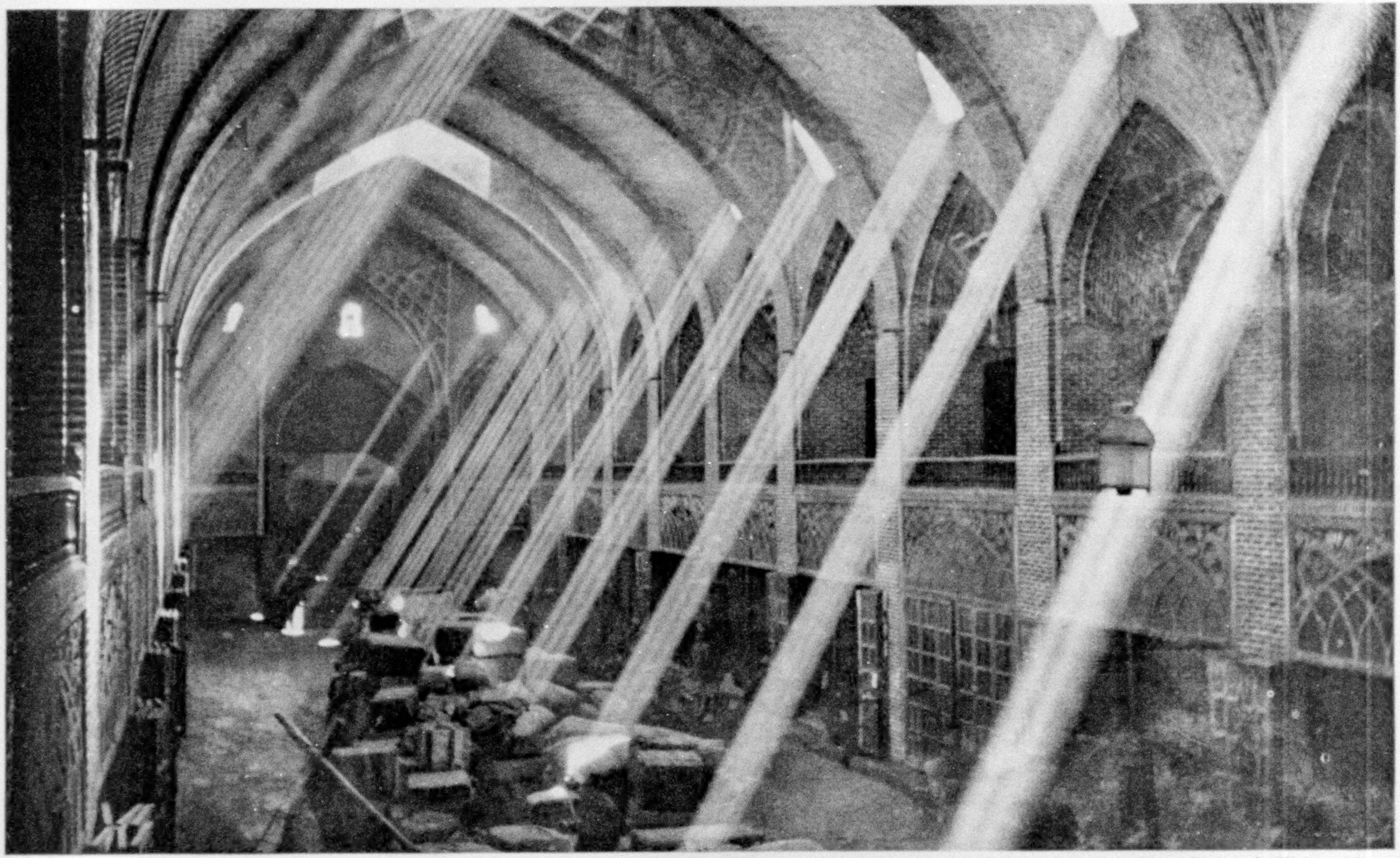
KUBLAI'S KINGDOM SPANNED A CONTINENT

History recalls the terrible ferocity of Genghis Khan, his successors, and their nomad hordes. How they devastated splendid Baghdad and razed fourscore other cities, so the conqueror could boast that a

Photograph by Morden-Clark Asiatic Expedition

TRAVEL IN THE TURKESTANS HAS NOT IMPROVED SINCE MARCO'S VISIT

Imagine the human figures to be Marco Polo, his father, and his uncle, and your mind's eye can picture the way the Polos crossed many a turbulent stream. These nomads are fording the Murghab River in the vicinity of Merv, Russian Turkestan.



Photograph by Lieut. Thomas L. Kirkpatrick

SOLAR SEARCHLIGHTS PLAY ON PILES OF PERSIAN RUGS

Bales of costly carpets are heaped along the center of this bazaar of Tabriz. As a supply base for early Venetian trade, Tabriz was as important to that city republic as is Singapore, with its tin and rubber, to the United States to-day. Yet the Polos were among the first Europeans to visit it, finding, to their chagrin, that a few Genoese had preceded them (see text, page 523). Tabriz garnered the products of India and central Asia and shipped them, along with her own rugs and silks, to Aias, where the Polos entered Asia, and there the Venetian merchants swarmed to load their ships with goods from lands they had never seen.

Photograph by Ewing Galloway

BOY WEAVERS AT A LOOM IN TABRIZ

"It is a city," Marco Polo wrote, "where merchants make large profits." These boys receive the equivalent of only 50 cents a day for their highly skilled labor.

Photograph by Lieut. Thomas L. Kirkpatrick

A BARBECUE AT TABRIZ

This vender is cooking small pieces of lamb on iron skewers, suspended above a charcoal fire kept glowing by the fan in his left hand. Lamb and mutton are the staple meats of the Near East. Such wayside restaurants are as prevalent in Persia as the "hot dog" stands along the motor highways of the United States.

horse might gallop across their sites. There was beautiful, busy Herat, where he dealt wholesale death to some half a million men, women, and children, of whom only 16 miserable survivors, hiding in sewers and the dome of a mosque, lived to tell the awful story.

But geography must consider also Kublai Khan who tolerated Christian, Jew, Moslem, and pagan; who made travel safe across Syria, Persia, and even sequestered Afghanistan, more accessible then than now; who lightened customs and tariffs and became briefly the patron of art, science, and learning of conquered peoples. Genghis "came, destroyed, burnt, and slaughtered"; Kublai's was "an age of nomad peace."

WHEN KUBLAI WOULD HAVE CHRISTIANIZED ASIA

Marco's immortal journey to Peking we owe to Kublai Khan, and that monarch's "noble curiosity" set him upon his subsequent travels, which added more to Europe's knowledge of the world than those of any other one man except Columbus has ever contributed.

Nicolo Polo and Maffeo, father and uncle, respectively, of Marco, visited the Khan about 1260. That monarch requested them to go back to Venice and return with 100 Christians to teach religion and the arts to his Tatars, and to bring him some oil from the sacred lamp on the Holy Sepulcher at Jerusalem.

The merchants waited two years for the election of a Pope, but when their friend Gregory X was elevated he was able to send only two Dominicans—two friars to convert all Asia! They took the holy oil and the lad Marco. The friars turned back, thinking their mission useless because of turmoil in Armenia, but the three Polos, guarding their battered vessel of holy oil, pressed on.

Subsequent centuries have speculated whether China might not have been Christian had the hundred missionaries been sent, for when they did not appear Kublai Khan turned to India for Buddhist teachers.

Photograph by Roland Gorbold

THE "NATIONAL FRUIT" OF PERSIA

These grapes are grown around Kazvin, a hot and dusty area, but they are gathered toward the end of August, just after showers which come opportunely and wash them at their time of ripening. Persia is credited with giving to Europe some of its favorite fruits and vegetables, notably the peach, the orange, the lime, and that headliner of the modern dietary list, spinach, although the origin place of many of Persia's cultivated plants may have been in far eastern Asia or India.

The Polos struck out upon their overland journey from Layas, now Aias, then a port whose harbor swarmed with vessels of Venice, Genoa, and Pisa, taking on cargoes of spices, silks, rugs, and other wares of the East. In August, 1925, Maj. F. A. C. Forbes-Leith, writing in the National Geographic Magazine of the Cilicia leg of his England to India motor journey, said: "Long camel caravans, laden with carpets, spices, and rich merchandise from far-off places in Asia, continually passed us on their way to the coast."

Apt example of the unchanging East, to be duplicated time and time again as explorers in succeeding centuries confirm what Marco Polo wrote! A trip to Chicago's World Fair would now afford only a journal of reminiscences; a journey across Europe before the World War would be, for the most part, history. But Marco's narrative of crossing Asia six centuries and a half ago is largely the living, vivid geography of to-day, much of which has been rediscovered only in recent years.

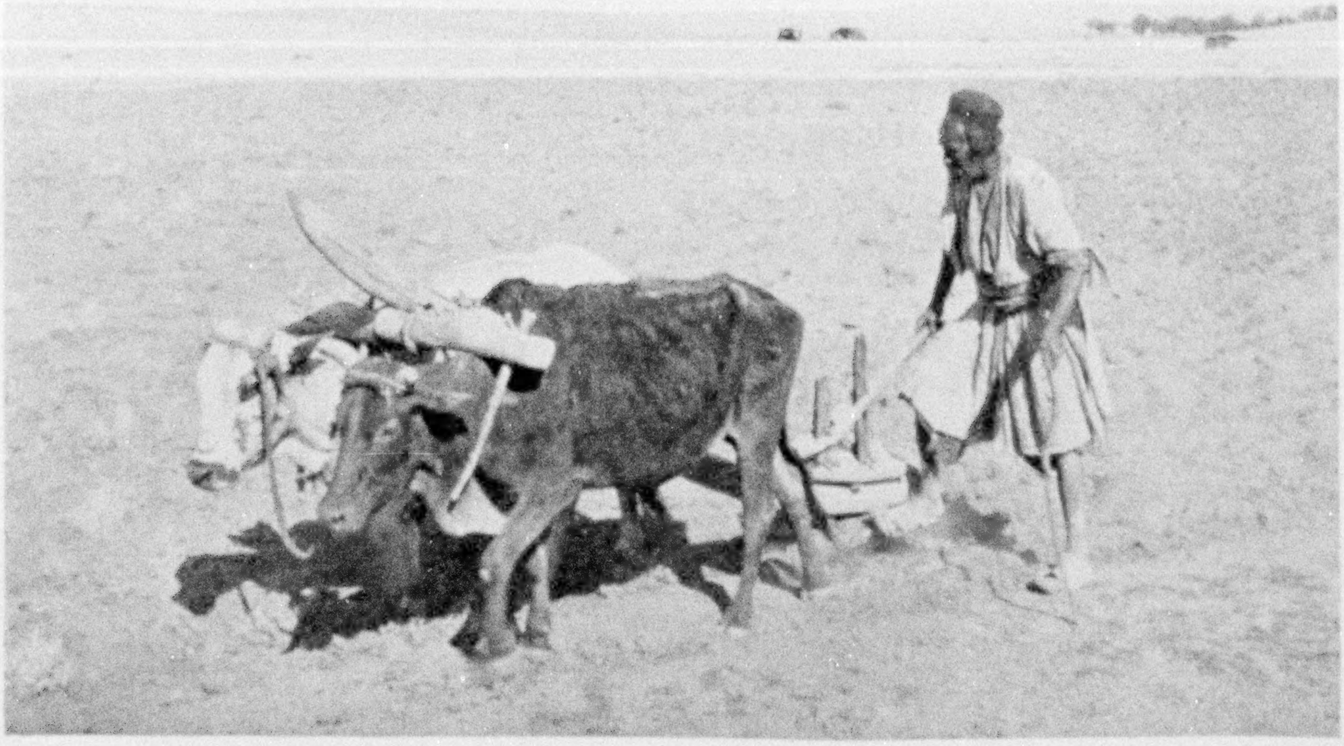
The travelers ranged through what now is eastern Turkey, noting the fine horses and carpets, reporting silver mines — more properly deposits of lead rich in silver—at Baiburt, Armenia, mines which were intensively worked years later. They circled "the mountain where the Ark of Noah rested," observing that its ascent was "impracticable," and the statement stood until Mount Ararat was climbed in 1829.

GEORGIA'S NAME RESTORED FROM MARCO'S TIME

In Georgia, recently restored to the name he used, Marco made his famous comment, premonitory of the modern petroleum ports of Baku and Batum, that "there is a fountain from which oil springs in great abundance, insomuch that a hundred shiploads might be taken from it at one time. The oil is not good to use with food, but 'tis good to burn and is also used to anoint camels that have the mange."

Venetians had little interest in an oil which would not flavor a salad, and a camel's skin ailments were of slight concern to gondoliers.

Cameras of to-day confirm Marco's description of the stalwart physique of the Georgians and historians corroborate the essentials of his account of a medieval wall at Derbent which served Alexander



Photograph by Harold F. Weston

PLOWING AS HIS ANCESTORS DID IN THE DAYS OF DARIUS

This Arab nomad is cultivating a sparse crop on the high plateau of central Persia. He leans hard on his crude wooden beam to give it more weight. He and his tribesmen come from the borders of Mesopotamia to the highlands for summer. Their little villages of black camel-hair tents—one is seen in the distance—are easily transported. All the implements and ways of life are primitive. Vast inland areas of Asia are fertile and await irrigation and railroads to populate them and make them regions of plenty comparable to our own Western plains.

the Great as an "Iron Gate" against northern invasion. The fine-grained boxwood he found so plentiful along the Caspian's shores had a later commercial use in wood engraving and probably contributed to illustrating some early editions of his narrative.

On his way to the Caspian the traveler pauses to describe the making of silks at Tiflis, when, veering south, he tells of the cotton fields and textile manufactures at Mosul—an observation verified by the origin of our word "muslin."

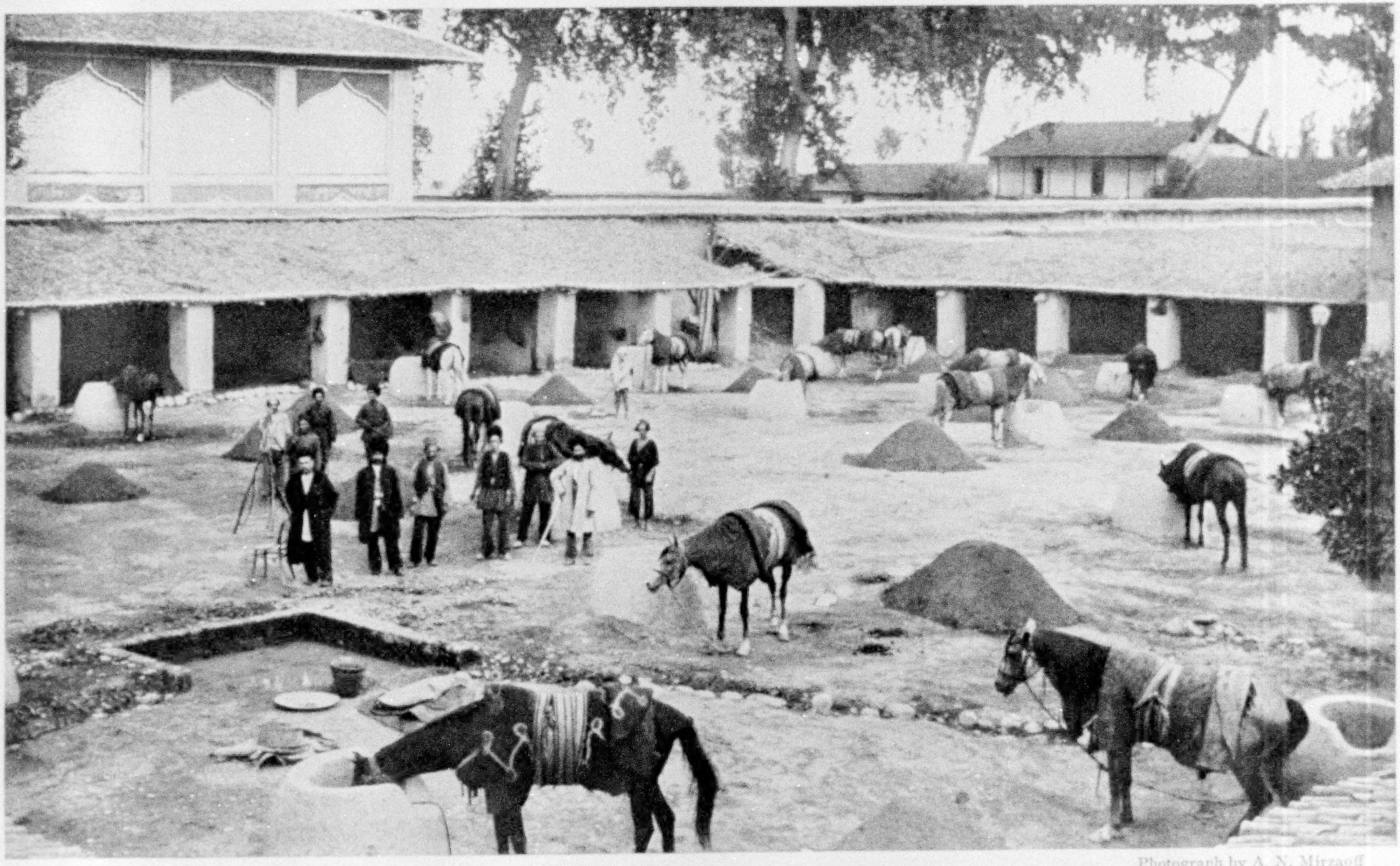
A BRIDGE OF PEACE—AND SILK

Historians now are speculating whether the short-lived Mongol bridge between Europe and Asia that Marco Polo built and the Moslems so soon destroyed may not have been the road by which the mariner's compass, firearms, printing, and other Eastern discoveries were suggested to Europe. Marco's narrative hints of ultimate word origins from this interchange.

Cotton growing at Khotan, farther along in the itinerary, is suggestive enough of "cotton"; queer pranks of the mirage and strange sounds from shifting sands he describes in the Gobi are exceedingly "goblin" like. But the word "assassin" has surer roots in one of the most amazing tales which Marco picked up after crossing into Persia, fatherland of all modern fiction.

THE KING WHO BUILT A MOUNTAIN PARADISE

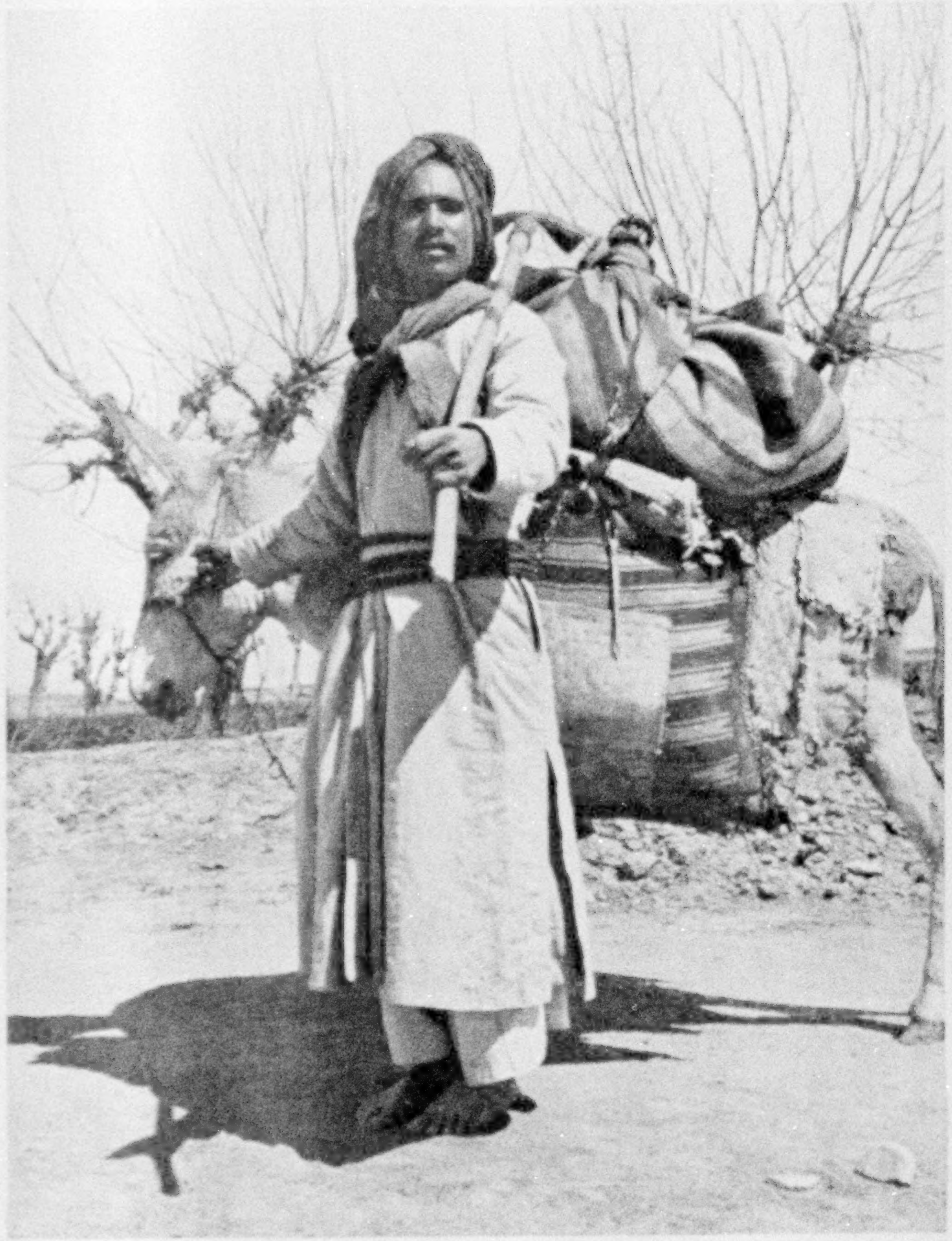
It is the story of the Old Man of the Mountain. This wily monarch set up in a certain valley a marvelous garden. In it he erected pavilions and palaces, planted orchards of delicious fruits, and equipped it with runnels flowing freely with wines, milk, honey, and water, and therein he stationed "numbers of the most beautiful damsels in the world, who could play on all manner of instruments, and sing most sweetly, and dance in a manner that was charming to behold."



Photograph by A. N. Mirzaoff

THE ROYAL STABLES OF THE SHAH OF PERSIA

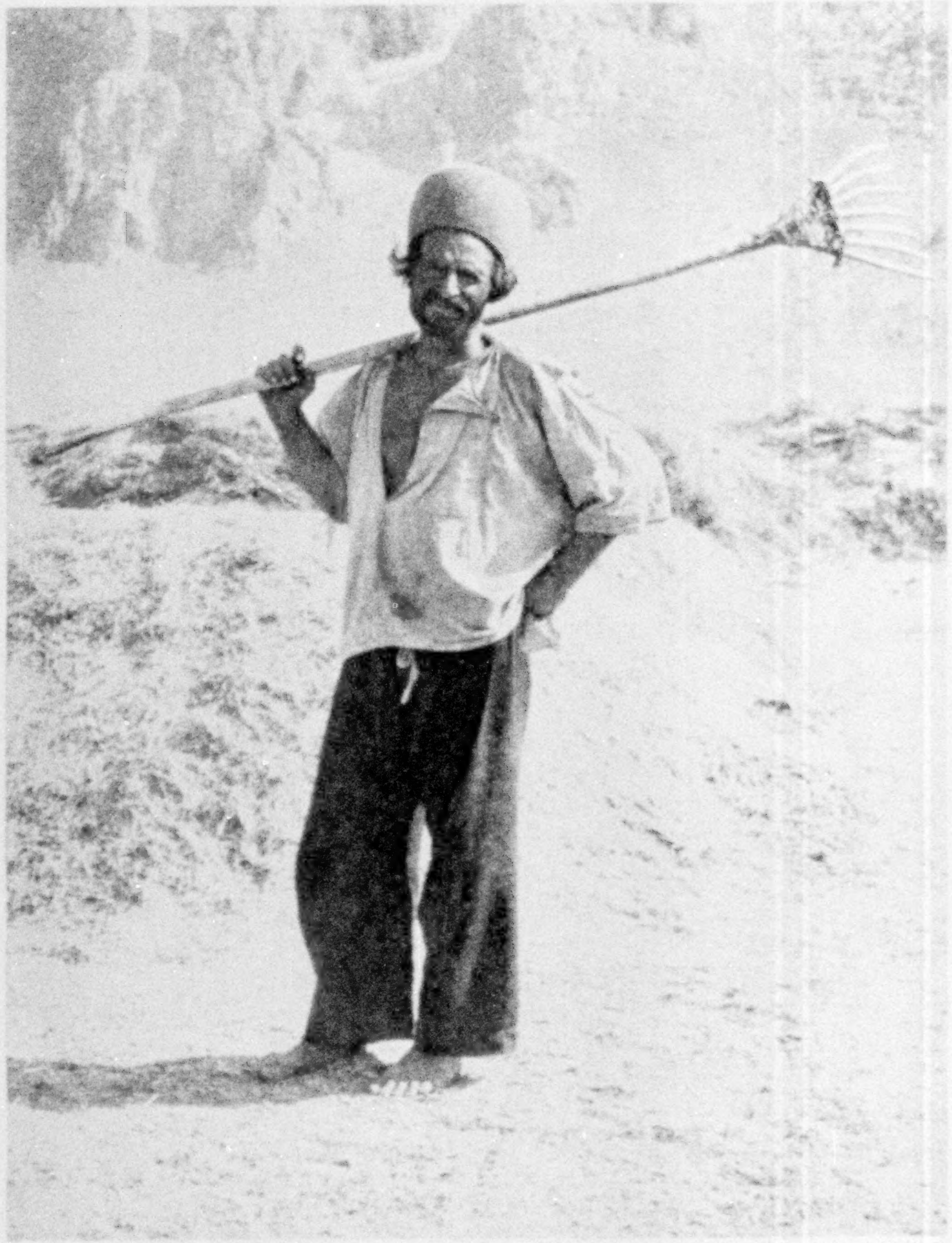
This establishment is maintained in the Province of Mazandaran. Each horse has its own attendant, and the expense is enormous. The Kajar dynasty, overthrown in 1925, kept up one of the most magnificent courts of the modern world. In the archives of our State Department, at Washington, is a treaty of "Friendship and Commerce" between the United States and Persia, dated 1856, in which the preamble begins: "The President of the United States of America and His Majesty, as exalted as the planet Saturn; the Sovereign to whom the Sun serves as a standard; whose splendor and magnificence are equal to that of the skies; the Sublime Sovereign and Monarch whose armies are as numerous as the stars; whose greatness calls to mind that of Jemshid; whose magnificence equals that of Darius; the Heir of the Crown and Throne of the Kaianians; the Sublime Emperor of all Persia," etc.



Photograph by John Whitmore Burland

HE WORSHIPS FIRE AND TILLS THE SOIL

This Parsi, or Zoroastrian, villager of Yezd has the native spade on his shoulder and his donkey is carrying his produce in the blue and white saddlebags made from cotton cloth locally manufactured.



Photograph by Roland Gorbold

A PERSIAN HARVESTER

Dressed in a light-blue shirt and darker blue trousers, with a gray felt hat, the farmer labors under the major handicap of scant rainfall on the plateau, while the locust is his greatest pest.

Photograph by Roland Gorbold

A PIRATE OF THE PERSIAN PLAINS

This Kurd comes of a race that holds a world-endurance record for fighting and longevity. His forbears toppled stones down on Xenophon's ten thousand Greeks on their famous retreat through Asia Minor, and cable dispatches to-day tell frequently of his compatriots' raids on villages of Persia and Iraq. Marco Polo called the Kurds "an evil generation, whose delight is to plunder merchants."

Then he would introduce them into his Garden, some four, or six, or ten at a time, having first made them drink a certain potion which cast them into a deep sleep, and then causing them to be lifted and carried in. So when they awoke they found themselves in the Garden, a place so charming they deemed it was a Paradise in truth.

And the ladies and damsels dallied with them to their hearts' content, and with their own good will they never would have quitted the place.

MESSENGERS EAGER TO RETURN TO PARADISE

When he wanted one of his Ashishin to send on any mission, he would cause that potion whereof I spoke to be given to one of the youths in the garden, and then had him carried into his Palace. He was then conducted to the Old Man's presence. The Prince would ask him whence he came, and he would reply that he came from Paradise, and that it was exactly as Mohammed had described.

This gave the others who stood by the greatest desire to enter therein.

So when the Old Man would have any Prince slain he would say to such a youth, "Go thou and slay So and So; and when thou returnest my Angels shall bear thee into Paradise. And shouldst thou die, nevertheless I will send my Angels to carry thee back into Paradise."

For this Old Man desired his people to believe he had created an earthly Paradise.

No man was allowed to enter the Garden, save those whom he intended to be his *Ashishin*. There was a fortress at the entrance, strong enough to resist all the world. He kept at his court a number of the youths of the country, from 12 to 20 years of age, such as had a taste for soldiering, and to these he used to tell tales about Paradise, just as Mohammed had been wont to do.

This tale is told by Marco only as hearsay; yet, romantic as it sounds to Western ears, the method of recruiting now is known to have been followed in various hill regions by Moslem chieftains. The

drug referred to is hashish, *hashishi* in Arabic, and the marauders were known as hashishiyin, which is not a far cry to "assassin."

FORCED TO STARVE IN A TOWER OF GOLD

Marco relates the story of the capture of Baghdad by Hulagu, grandson of Genghis Khan, and the extinction of the Abbaside Caliphate in highly allegorical fashion, but he points a sound historic moral.

He first describes the great trade of the city, the weaving of silk stuffs and gold brocades, and reports as accurately as any modern consul might how much of this commerce is dependent upon the outlet at Basra to the Persian Gulf.

Pearls from India for the European trade were bored at Baghdad, and he was impressed by the seats of Moslem learning, where "magic, physics, astronomy, geomancy, and physiognomy" were studied.

Photograph by Ernest B. Schoedsack

CROSSING THE SNOWS IN QUEST OF GRASS

These Bakhtiari tribesmen are like the nomads Marco Polo found in Persia. Twice a year they traverse "the wickedest 200 miles in the world," along with their cattle, sheep, and goats. When they reach a stream the men build rafts for the women and children, but they themselves, the boys, and the cattle must swim the icy waters.

Marco marvels, as a Venetian would, at the military strategy of Hulagu in taking Baghdad by storm, and then relates how, upon entering the city, the conqueror found a tower of the caliph which was full of gold and silver and other treasure. Whereupon the Tatar summoned the caliph, upbraided him for his miserliness, and asked, "Wherefore didst thou not take of thy wealth and employ it in paying knights and soldiers to defend the city?"

When the caliph made no reply, Hulagu told him that since he was so fond of his gold he might subsist upon it, and locked him up in his tower of treasure, where he starved to death amid his riches. "Truly," Marco concludes, "his treasure would have been of more service to him had he bestowed it upon men who would have defended his kingdom and his people."

Marco Polo's chapters on Persia form a gazetteer which, with changes of spelling, would be serviceable to-day. Fact after fact that he set down has received confirmation by General Sir Percy Sykes, who during his 25 years in Asia patiently traced out the western sectors of the Polos' route.

Entering what now is Persia at Tabriz, the Venetians passed Kazvin, and at Saveh Marco digresses to relate an Eastern ver-

Photograph by John B. Jackson

AN "OLD TRAILS" ROAD OF PERSIA

The sun-baked and sand-blown route that has borne caravans for centuries, which Marco Polo probably traversed to Kazvin, still is suggestive of a puzzle picture, "Find the road." It lies on the steppes, which see only a brief verdure in spring, soon scorched away, leaving low bushes where camels graze. But the peasants can pluck from these forbidding deserts a surprising range of products—fuel, caraway seeds, edible thistles, and asafœtida, "polecat of the vegetable kingdom," which commands high prices as a condiment in India.

sion of the further adventures of the Three Wise Men after their return from Palestine.

After receiving their gifts of gold, incense, and myrrh, so the legend goes, the Child Jesus gave them a box. When they opened it they found a stone. At a loss to interpret its meaning, they cast it in a well. Straightway a fire from heaven descended into the well. So they "took of that fire and carried it into their own country and placed it in a rich and beautiful church." There it has been kept continuously burning and many other sacred fires have been lighted from it.

The Parsis, or Persian fire worshipers, survive, though their origin goes back to Zoroaster, who lived at least six centuries before the Christian era (see page 521).

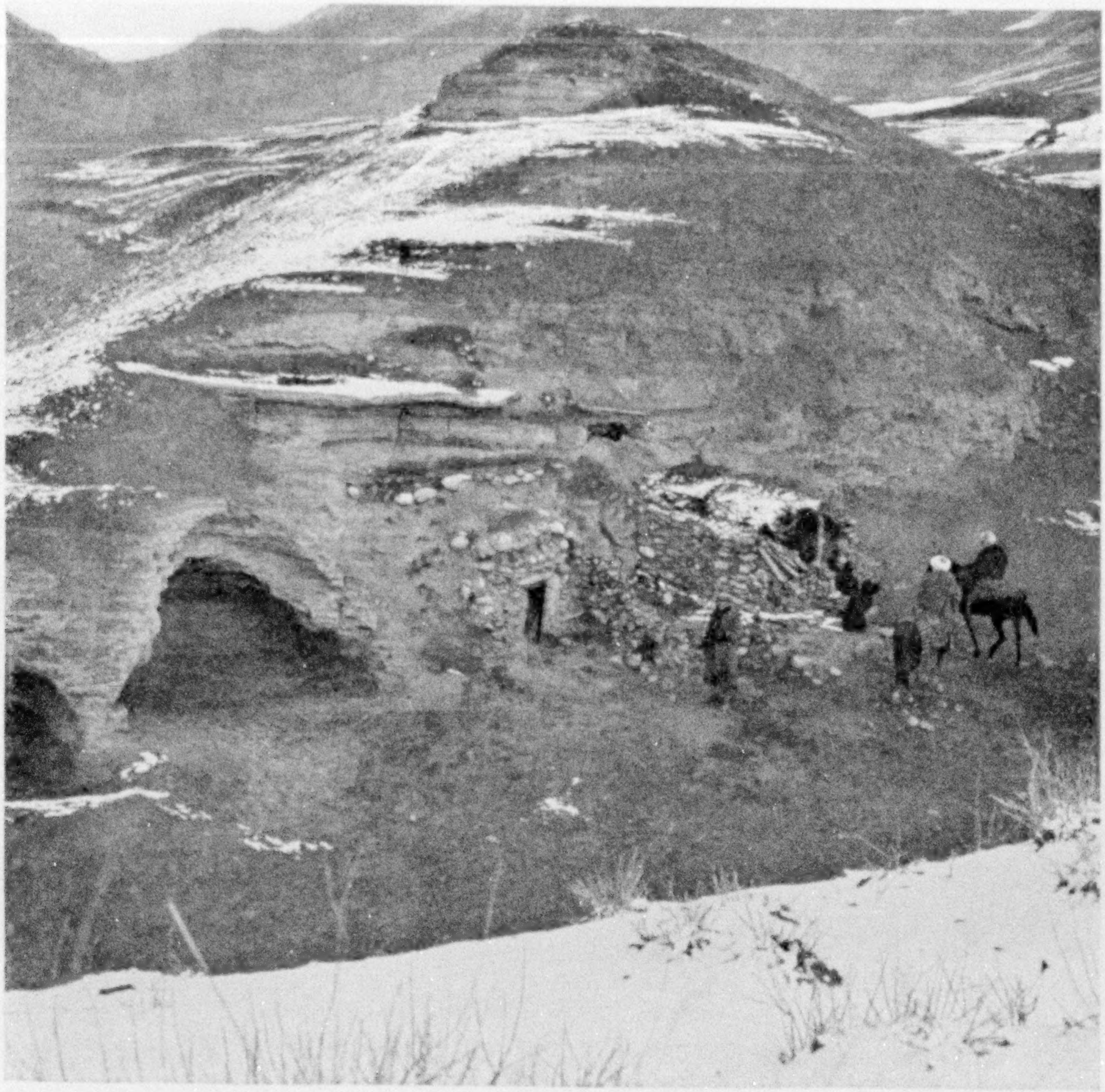
KERMAN ORIGINATED THE KASHMIR SHAWL

Marco resumed his travels at Yezd, famous then, as to-day, for its silk, and reached Kerman. Inevitably the Polos had an eye to major business of a community; this time it was a household industry. They fingered the fine fabrics woven by the women and girls, admired the embroideries of silk and gold, and marveled at the beautiful patterns, representing beasts, birds, and other figures.

The fabrics of Kashmir are more familiar to us, but the Kerman weavers to-day will tell you the Kashmir products are later imitations of the original Kerman *shals,* which contributed our word "shawls."

Admiringly they handled the Kerman weapons—the daggers, swords, bows, and quivers. They examined the bridles and stirrups and saddles for the fine Persian horses they had seen on the plains—horses that sold in India for the equivalent of $1,000 and often were traded for the fine swords of Indian steel.

Between Kerman and Ormuz Marco reveled in valleys of date palms and pis-



Photograph by P. O. Crawford

A CAVE HOUSE OF AFGHANISTAN

On a 12-day ride in the Amir's domain, Marco Polo found no human habitation, because, he explained, "the people have all taken refuge in fastnesses among the mountains on account of the banditti and armies that harassed them." This cave dwelling was photographed along the road near Jalalabad.

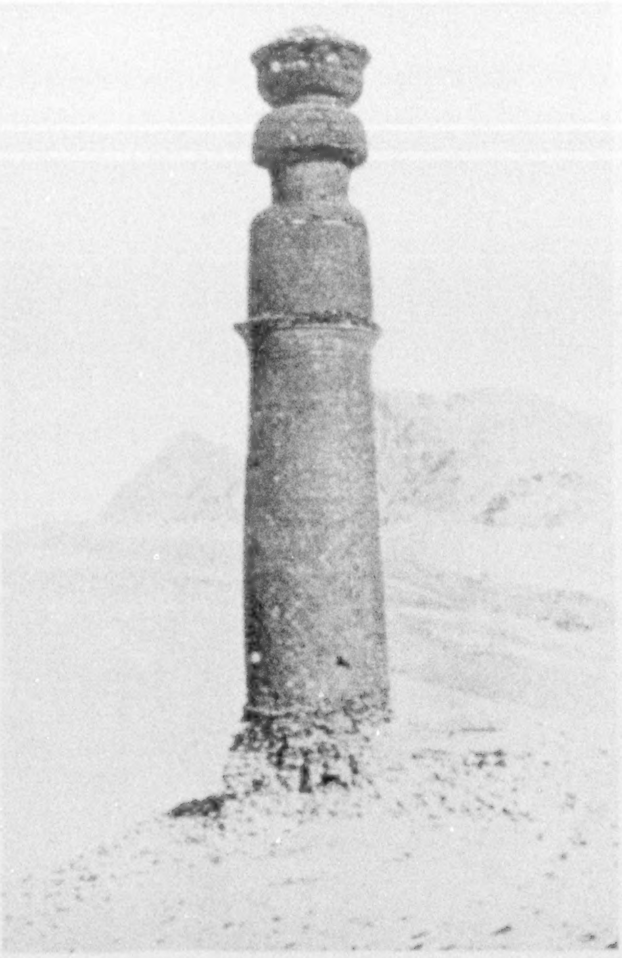
tachio trees, and described a species of partridge, the francolins, "their color a mixture of black and white, and the feet and beak are red." Here, too, he first encountered the humped oxen, which would kneel and receive a load, and the fat-tailed sheep, whose appendages often weighed 30 pounds (see illustration, page 507).

Alert to every new object, Marco inquired the reason for high mud walls about the villages. He learned of the bandits, who survive in the tribes of the Karaunas, then devastating barbarians of the plains whose depredations were enormous.

When these tribesmen wished to plunder, he wrote, they "have certain devilish enchantments whereby they bring darkness over the face of day." Riding abreast, in this way they harried whole plains, catching every living thing under cover of the fog. The old men they "butchered," younger people they sold into slavery.

TRIBESMEN RAID AMID "DESERT FOGS"

This "desert fog" long was accounted another fiction; modern geographers know well the Persian "dry fogs," or dust storms, that sweep this region. The Karaunas did not conjure the phenomenon, but they made effective use of it.



Photograph by Haji Mirza Hussein

A RELIC OF AN EARLY CIVILIZATION IN AFGHANISTAN

Here and there throughout the domain of the Amir battered ruins lift their heads. The crumbling Zoroastrian fire temples are among the oldest ruins of historic times. The Zoroastrians originated in Persia, but dispersed to borderlands, principally to India, after the Arab conquest.

The Ormuz that the Polos visited had not yet transferred its people and trade to the island, from which it later was removed to the mainland Bandarabbas. They saw the beginnings of a new city clinging to a barren rock, some 16 miles in circumference, rising like a rugged 700-foot monolith, streaked with the discoloration of the iron, copper, and sulphur deposits. This, literally, was the bedrock of medieval trade in strange drugs, rare gems, elephants' teeth, gold tissues, and the spider-web fabrics brought up from India.

The rich cargoes arrived in "wretched ships; many of them get lost, for they have no nails, and are only stitched together with twines made from the husk of the Indian nut." The coconut, like tobacco, the potato, the peanut, the tomato, and other now familiar crops and plants, was not yet known in Europe.

"The ships are not pitched, but are rubbed with fish oil (meaning whale oil)," he wrote. "They have one mast, one sail, and one rudder, and have no deck, but only a cover spread over the cargo when loaded. This cover consists of hides, and on top of these hides they put the horses which they take to India for sale."

Doubling back from Ormuz, the Polos crossed the deserts north of Kerman, deserts of "surpassing aridity," treeless and therefore fruitless, and "whatever water there is is bitter and bad." Even Sir Percy Sykes, confident of Marco's accuracy from many personal confirmations, failed to heed this statement some years ago when he crossed the Dasht-i-Lut. "I did not take enough water with me," he writes. "Being quite unable to drink the 'bitter and bad' brand, I was fortunate to escape the fate of hundreds of travelers whose bones mark this trail."

MARCO FINDS AN EYE SALVE

In Persia, as elsewhere, the variety of Marco's observations was amazing. Fortunately he was no specialist. He turns from shipping to plant life, from tribal customs to meteorology, and now he contributes to the pharmacopœia the note that these parts procure tutty as a by-product of the zinc they mine, tutty, he adds, being "a thing very good for the eyes." He referred to the crude zinc oxide, product of zinc smelting, a standard collyrium of oculists to-day.

In some Persian districts the Polos found tribes that were "savage and bloodthirsty." And, strange refutation of traditional ideas about the Mongols, "they would not refrain from injuring merchants and travelers were it not for terror of the eastern Tatars."

The date wines of Persia won unstinted praise from the travelers. They were highly amused at the Saracens, who quieted their consciences by boiling the forbidden beverage, then quaffing it without a qualm.

The travelers crossed Khorasan and west Afghanistan along a route not decipherable. Marco makes brief mention of Balkh, ancient "mother of cities," then, as now, supporting a meager population among its ruins of palaces and spacious squares.

Thence the Polos plunged on into the "strait and perilous passes" of Badakhshan hitherto unexplored, still little known.

Photograph by P. O. Crawford

AFGHANISTAN TURNS A FROWNING BATTLEMENT TO THE INCOMING WORLD

Tuesdays and Fridays are the historic "visiting days" in the realm of the Amir—the days on which the long camel and horse caravans file across the border at the one entry point, the Khyber Pass. This blockhouse, with its guards, is the first fortress that lies across the India border. It serves the double purpose of keeping intruders out and guarding travelers, who have passes to enter, against the marauding Afghan tribes.

They gazed astounded upon mountains of salt, mined with picks. They watched the porcupine, and perpetuated an ancient belief about these animals when Marco records that they "roll themselves up when the hunters set their dogs at them, and with great fury shoot out the quills with which their skins are furnished, wounding both men and dogs."

They marvel at the "toper" capacity of the men, "an evil and murderous generation," who are mighty hunters, wear skins of beasts for clothing, twist a cord round and round their heads for a hat, often live in caves, but hang a fortune in jewels from their ears; and they laugh at the women who think to enhance their beauty by winding yards and yards of cloth about their bulging hips.

VALORIZATION APPLIED TO RUBY OUTPUT

But their attention is riveted—the elder Polos were jewelers, you will recall—upon the mining of the balas ruby and the lapis lazuli. They watch the digging of the rubies from the mountain rocks, a process that leaves the slopes honeycombed with huge caves and tunnels. They study the

Photograph by P. O. Crawford

LOADING A TRANSPORT FOR THE KHYBER PASS

Although the British built a road from Peshawar to Kabul, the wools, hides, and silk that Afghanistan ships to India are carried by camels or the stout-shouldered horses. The 33-mile pass, cutting through steep cliffs, sometimes narrowing to 15 feet, guarded against fierce Afridi tribesmen, is one of the strangest trade routes in the world.

measures the king takes to stabilize their value. The stones "are dug on the king's account." No one else dares dig under penalty of death; neither may anyone carry the stones out of the kingdom. The king uses them to pay tribute and sells them in limited quantities.

Marco, still the boyish Venetian, was always surprised when he found no olives, just as were the Chinese when they learned the West had no bamboo—a lack which seemed incredible. But he notes that in Badakhshan oil is extracted from walnuts and sesame. Wheat is grown and also a barley "without husk." Plant explorers explain that the grain is not properly huskless; it bursts through the husk when ripe.

The area that Marco called Badakhshan overlapped the Oxus into the lofty valleys of rugged Bokhara, flecked with karakul sheep, and also the fertile clefts in Ferghana's steep ranges. This region of marvelous scenic beauty emerges seldom into the stream of world history. Once, about 1830, an Uzbek chieftain overran the country, found the ruby mines of Polo's time worked out, and in disgust abandoned them and sold the people into slavery.

Marco was able to write exhaustively of this region because he was detained there by illness for a year. For centuries later his notes on the Kataghan horses, legendary scion of Alexander's Bucephalus breed; on the sheep which he saw in flocks of hundreds; on the falcons, hawks, and trout; on the almonds and pistachio nuts, and the "orphan races" and tribes among the hills, were the only data the world had of the core of Asia. The area still awaits thorough exploration.

Of Kashmir, to the south, Marco had only hearsay information. He did not visit the land of Lalla Rookh, but what he learned about the sorcerers and their "deviltries of enchantment" and the beauty of the "brunet women" he wrote down. He gave Europe an accurate description of Buddhist monastic life and of Brahman ascetic practices. The young

Photograph by Graham Romeyn Taylor

TYING UP THE FAMOUS MELONS OF TURKESTAN WITH RUSHES

This vast market, the Registan of Samarkand (see, also, illustration, page 530), once the show place of central Asia, dispensing commodities that range from fruit to rugs, retains much of its former beauty and its motley human crowds. Costumes, facial make-up, modes of transport and bargaining are much the same as they were in the era of Kublai Khan. Some of the tile façades that incase the adjacent mosque schools date from Tamerlane's era; the more "modern" walls are of the period when British colonists were settling Jamestown, Virginia.

traveler had acquired a sense of geographic determination, for he wrote:

"There are numbers of towns and villages in the country, but also forests and desert tracts and strong passes; so that the people have no fear of anybody and keep their independence, with a king of their own to rule and do justice."

CORAL A BEAUTY AID IN THE HIMALAYAS

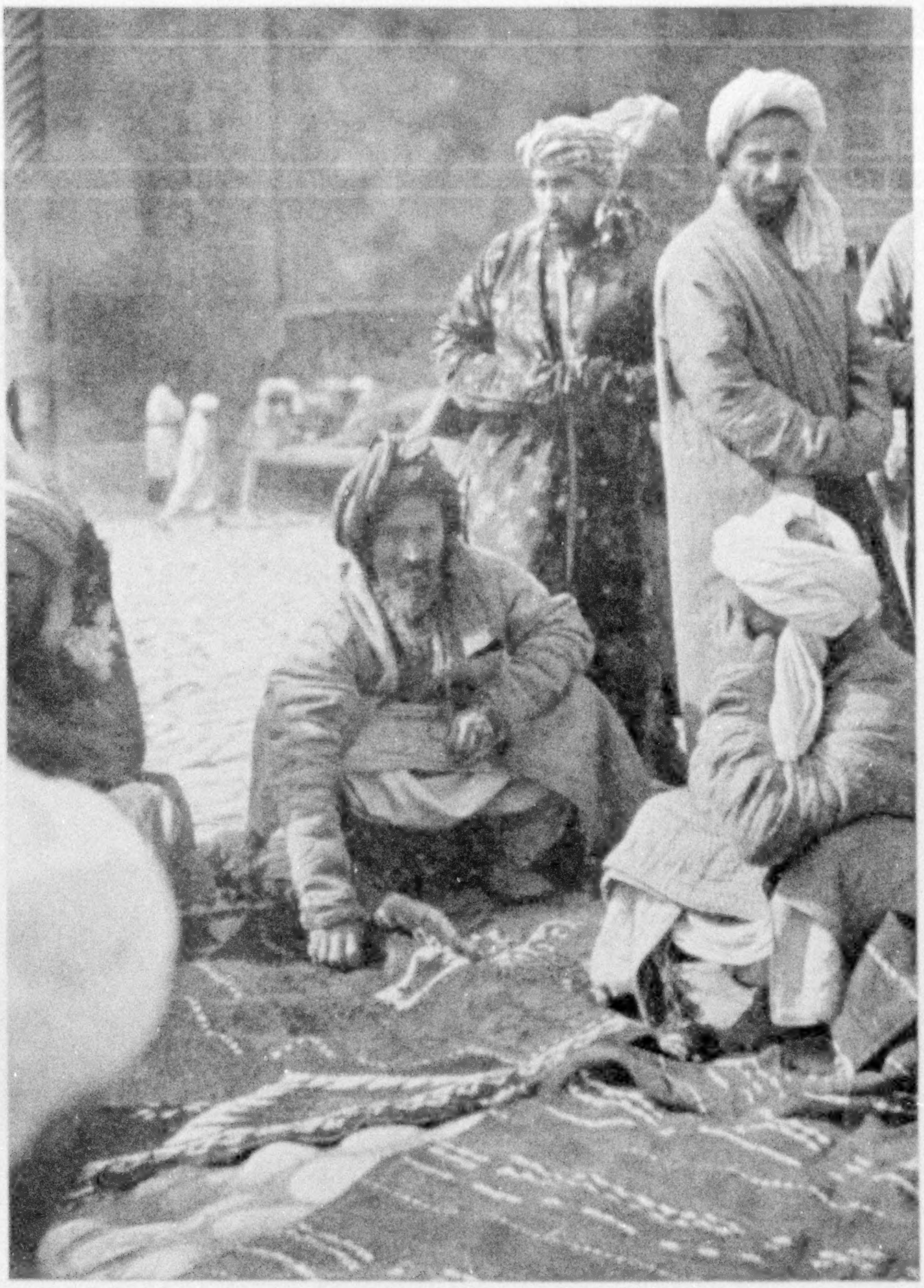
He noted that "coral, which is carried from our parts of the world, has a better sale there than in any other country." Peoples of the Himalayas still prize coral ornaments.

Had Marco Polo carried the equipment of a modern expedition he would have flashed a radio message from the next stage of his journey, telling that he had reached "the roof of the world," where the plateaus were as high as our Rocky Mountains and the peaks thereon pierced the very skies. Airplanes would have rushed back motion pictures of a strange, new animal, "wild sheep of great size, whose horns are a good six palms in length."

"From these horns," he later wrote, "the shepherds make great bowls to eat from, and they use the horns also to inclose folds for their cattle at night."

Until modern times Marco's descriptions of the Pamir, named by him, and of the sheep later named for him, were considered the most far-fetched of all his tales. Not until Capt. John Wood passed that way more than five centuries later was his account verified. Captain Wood measured the horns of the Ovis Poli and found some three feet from tip to tip, nearly five feet along their curve.

That was in 1838, and motion pictures of the sheep, taken in 1926 by the Morden-Clark Asiatic Expedition, were exhibited before members of the National Geographic Society December 2, 1927. These pictures showed that the wolves which preyed upon the sheep, leaving the heaps



Photograph by Graham Romeyn Taylor

A SART RUG SELLER IN THE REGISTAN OF SAMARKAND

The ancient city still possesses a mellow beauty that warrants its euphonious name. Genghis Khan, among many other conquerors, sacked it and massacred many of its people. But time and time again it has been rebuilt, sometimes on adjoining sites, until the "suburbs" of to-day's city are ruins of crumbling beauty and major historic interest.

of their horns and bones Marco noted, still roam this lofty wilderness* (see illustrations, pages 532, 533).

Marco also observed that at these altitudes "fire does not burn so brightly, nor give out so much heat as usual, nor does it cook food so effectively." Until physicists determined that, while water boils at 212° F. at sea level, the boiling point is greatly lowered by altitude, being only 179° or 180° in the Pamir, other travelers were equally puzzled to find water boiling while food remained uncooked.

Descending from the bleak, birdless Pamir, Marco invaded an area where the very names suggest a poem:

Khotan, Yarkand and
Samarkand;
Kashgar, chalcedony,
jasper and jade.

Marco described Yarkand, dwelt upon the "abundance of cotton" at Khotan, and related hearsay tales of Samarkand, which he did not visit.

The Venetians entered Kashgar, first city they had seen after a year in mountain and wilderness. No wonder they admired the gardens and vineyards. But the merchants, who traveled far afield from that trade center, Marco called "a sordid race, eating badly and drinking worse" (p. 539).

He explored the region of Keriya, east of Khotan, where ancient cities now are buried in desert sands; but the jade "fished" from the river beds still is found.

GOBLIN TALES FROM THE GOBI'S SEA OF SAND

Marco hastens on for his next adventures, in the Gobi Desert, which were scarcely less marvelous than the crossing of the Pamir.

The Great Sea of Sand, as the Chinese call it, has more right to the title than much of mountainous Sahara. It is far from explored, even to-day, and within the present year Sven Hedin, who has corroborated many of Marco's findings in

* See, also, "By Coolie and Caravan Across Central Asia," by William J. Morden, in the National Geographic Magazine for October, 1927.

this zone, led an expedition across it in the hope of solving some of its remaining mysteries.

The strange sights and weird sounds, mirages and noises of shifting sands, dwelt upon by many subsequent explorers, are most vividly described by Marco:

> When travelers are on the move by night, and one of them chances to lag behind, or to fall asleep, when he tries to gain his company again he will hear spirits talking, and will suppose them to be his comrades. Sometimes the spirits will call him by name; and thus shall a traveler ofttimes be led astray, so that he never finds his party.
>
> Sometimes the stray travelers will hear as it were the tramp and hum of a great cavalcade of people away from the real line of road, and taking this to be their own company they will follow the sound; and when day breaks they find that a cheat has been put on them, and that they are in an ill plight.
>
> And sometimes you shall hear the sound of a variety of musical instruments, and still more commonly the sound of drums. Hence in making this journey 'tis customary for travelers to keep close together. All the animals, too, have bells at their necks, so that they cannot easily get astray.

Photograph by Graham Romeyn Taylor

AT PRAYER IN SAMARKAND

The prayer cloth is of Bokhara embroidery. The large circles are deep red and the vine design is green. The name Sart, freely translated, means "city folk." The farmers of the same central Asia areas are called Tajiks. Many of the Sarts are Uzbek descendants (see page 528) who have abandoned their nomad ways to settle down in the cities.

ASBESTOS SUPPLANTS THE SALAMANDER

Having given rise to the goblin stories of generations to come, Marco laid the ghost of the salamander fiction, rife in China and India for ages past, and believed firmly by the Greeks. In so doing he narrated the "ridiculous" marvel of asbestos.

There is no known asbestos in Turkestan. Marco had the story of the strange mineral from a traveler who, unfortunately, did not make it clear where it then was found; but he related accurately how it was taken from veins in the mountains, crushed and treated so that it divided into "fibers of wool," and these fibers were spun into cloth which is not combustible.

Marco had approached the Great Desert by way of Charchan, jade market, and Lop Nor, terminus of desert caravans. He cut across its southwest corner. To

Photograph by Morden-Clark Asiatic Expedition

WILLIAM J. MORDEN, WITH AN OVIS POLI RAM, IN RUSSIAN TURKESTAN

The Morden-Clark Asiatic Expedition made the first comprehensive single collection, in 1926, of the sheep that Marco Polo discovered more than 600 years ago (see NATIONAL GEOGRAPHIC MAGAZINE for October, 1927). In one month in Russian Turkestan the latter-day explorers saw 1,056 rams and more than 600 ewes and young. They were stalked with the aid of yaks, and often the hunters had to lie among rocks and on snow for hours, awaiting an opportunity to approach the wary animals.

have traversed the extent of the Gobi, he estimated, would have required a year.

He emerged to enter what to-day is China at Tunghwang, then a frontier province of Tangut, still a regional name for the panhandle province of Kansu.

He advanced to Suchow, finding among the hills of the vicinity broad fields of rhubarb, which "merchants buy and convey all over the world." He mentioned that a certain plant was poisonous to the cattle. One wonders whether it may not have been the rhubarb tops themselves.

Kanchow he found a "great and noble city," then the capital of Tangut. He was surprised to find three Christian churches in the city, another evidence of the far penetration of the Nestorian branch of the Christians. Later he encountered them in Ethiopia, which to-day stands as the oldest Christian nation.* Marco described "great idols which lie at length," probably referring to the "Monastery of the Lying Buddha," ruins of which were found at a later date.

IN THE HOMELAND OF NOMAD CONQUERORS

At Kanchow Marco remained, with his father and uncle, about a year. In this Tangut-Gobi region he found himself in the heart of the nomad homeland, whence these mysterious tribesmen had radiated to conquer half the known world of his day. They rode west into Russia, they overran Poland, they captured Budapest, in Hungary. In 1238 they upset the herring market of England. From fear of them the sailors of Friesland and Gottland dared not venture to Yarmouth.

Naturally Marco pauses to tell about the Mongols, drawing upon knowledge he was to acquire for the next 17 years while traveling through their vast domain. His description comprises some of the most

* See, also, "A Caravan Journey Through Abyssinia," by Harry V. Harlan, in the NATIONAL GEOGRAPHIC MAGAZINE for June, 1925.

Photograph from Wide World Photos

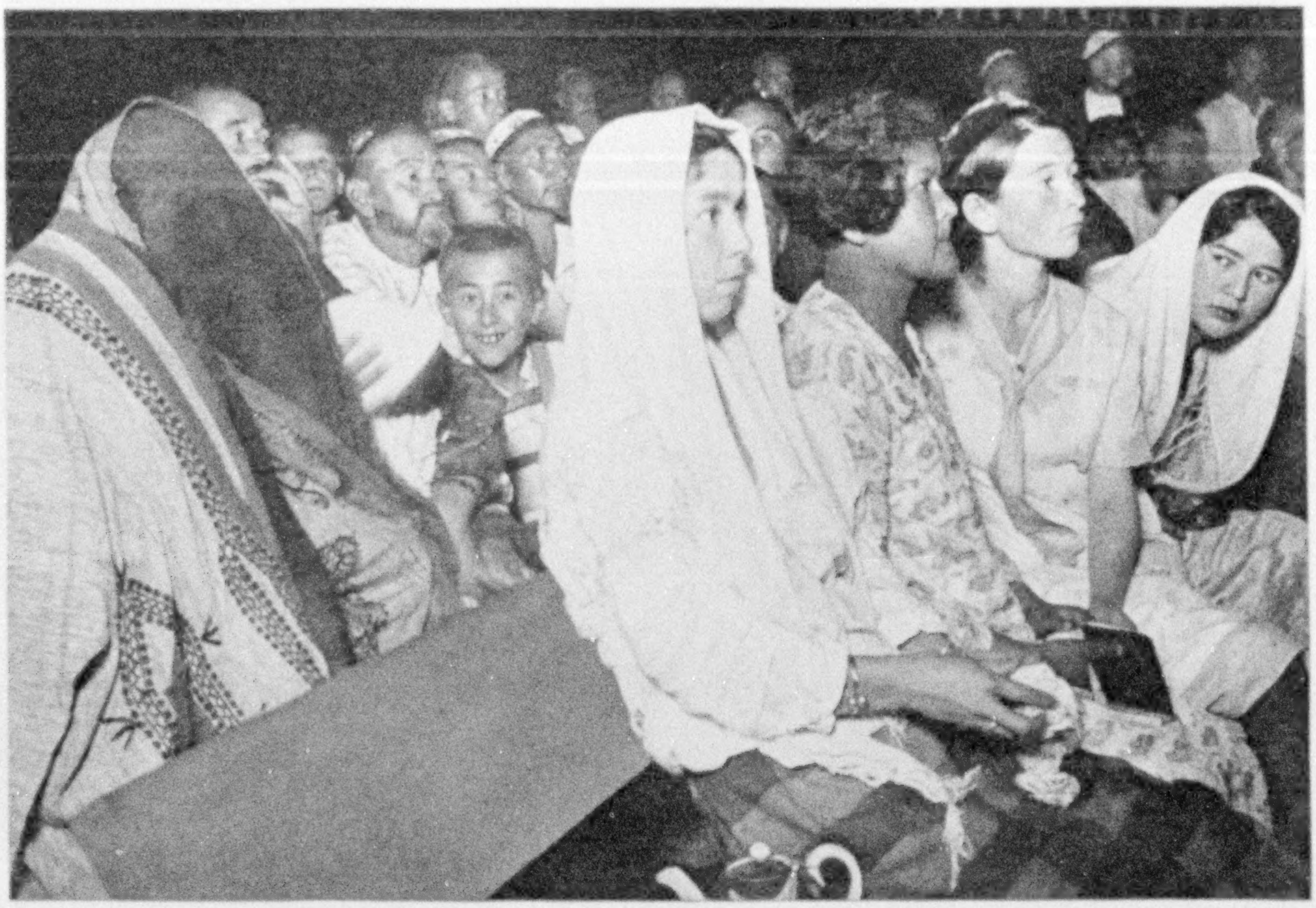
TROPHIES OF THE ROOSEVELTS' BIG-GAME HUNT IN ASIA

A group of Ovis Poli mounted and exhibited, in a background which duplicates their natural habitat, at the Field Museum of Natural History in Chicago (see, also, text, page 530).

Photograph by Morden-Clark Asiatic Expedition

LOADING A YAK, A BEAST OF MIGHTY BURDENS

The "grunting oxen" so impressed Marco Polo that he took tufts of their wool back to Venice. The tails of the animals are exported from central Asia to India, where they are in demand as fly whisks.



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WOMEN OF THE UZBEK TRIBE, WHICH HAS EMERGED IN THE COTERIE OF ASIATIC RUSSIAN REPUBLICS

An obscure and ancient people, which roamed Bokhara and northern Afghanistan, has given its name to one of the units of the Union of Socialist Soviet Republics, commonly abbreviated as U. S. S. R. Other strange names now adorning the changed, and still changing, Soviet political map of Asiatic Russia include Kazak, Kirghiz, Tadzhik, and Turkoman, to each of which should be added four initials if one would be completely official. The last three are the inevitable S. S. R.; the first indicates the gradation of the "Republic" in the conglomerate affiliation, such as A for Autonomous, F for Federated. Uzbek women are acquiring the habit of taking off their veils, but, as indicated by the older woman in the second row, the more conservative wear them in all public places.

amazing chapters in human geography ever penned by any traveler. He paints with broad strokes, dealing with Tibet, Mongolia, and even sketching the Siberians.

When one of the great khans died, Marco wrote, he was conveyed to a certain mountain for burial, no matter how distant the place of his death. Explorers now are searching for this Luxor of the Tatars.

Any human beings encountered by the funeral procession were put to death with the injunction, "Go and wait upon your Lord in the Other World." Upon one occasion more than 20,000 Mongols were slain in this manner.

Only recently has it been shown that the procedure was not wanton cruelty or the result of a strange superstition; it was considered needful that the monarch's passing should be kept secret until his successor ascended the throne.

The Mongols, like the Bakhtiari tribesmen he had previously described, followed their cattle from the seasonal pastures of plains and highlands. But they had dwellings. "Their houses are circular and are made of wands covered with felts." These they carried along with them and always, when placing them, they turned the doors toward the south (see illustrations, pages 513 and 536).

A 22-OX TEAM OF MONGOLIA

Their wagons, drawn by oxen and camels, were covered with black felt and were water-tight. A contemporary of the Polos measured the space between the wheels of one of these vehicles. It was 20 feet! "The axle," he added, "was like a ship's mast and 22 oxen were yoked to the

Photograph by Dr. Franz Stoedtner

A PRECURSOR OF A BALALAIKA ORCHESTRA MUSICIAN

The Kirghiz people, whose one art is the playing of the crude guitar, prey upon the Ovis Poli now as they did in Marco Polo's time. They hunt the famous sheep with matchlocks supported by forked rests near the muzzles. They are as averse to walking as an Icelander, or an American owner of a new sport motor car, and leap on their wiry ponies to traverse even a few hundred yards; but their endurance in the saddle is marvelous.

wagon, 11 abreast" (see illustration, page 545).

The women slaved in peace time, but the men endured great hardship and fatigue in war. On distant expeditions troops took along only two leather bottles of milk, an earthenware pot to cook their meat, and a shelter tent. "And in case of great urgency they will ride ten days without lighting a fire or taking a meal."

Since neither condensed nor dehydrated milk was yet known in Europe, Marco's account of their subsistence was disbelieved.

"They have milk dried into a kind of paste to carry with them," he wrote. "When they need food they put this into water and heat it up till it dissolves, and then drink it. On an expedition every man takes ten pounds of this dried milk. Of a morning he will take a half pound of it and put it into his leather bottle, with water. So, as he rides along, the milk paste and the water get well churned together into a kind of emulsion, and that makes his dinner" (see page 542).

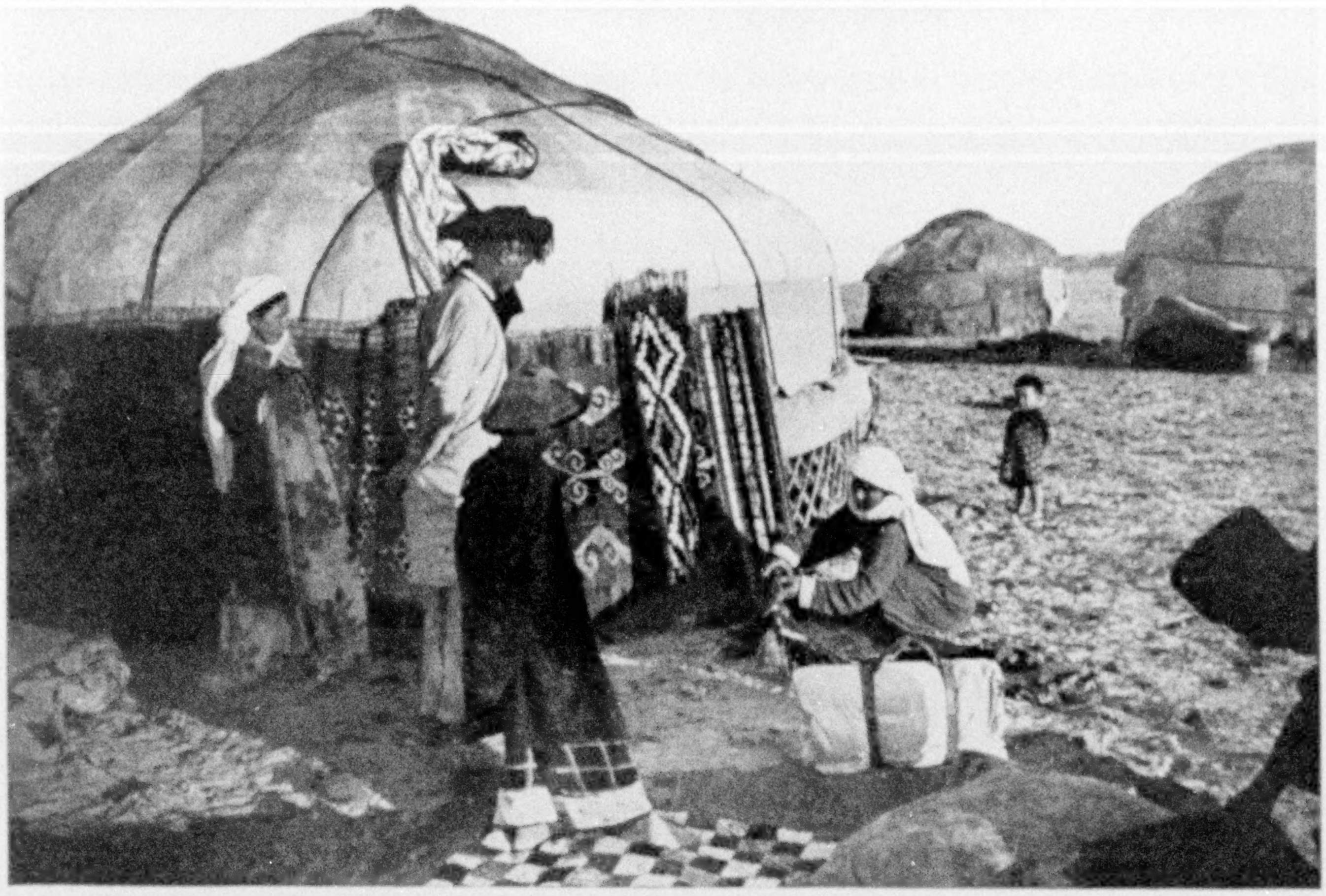
Soldiers were taught to sleep on horseback while the animals grazed. When hard pressed, they drank the blood drawn from the horses they rode.

Among the Tatars proper the women are noted for their "chastity and decency." True, any man might take a hundred wives if he pleased, but the first wife was ever held in highest honor, and the men "are very careful not to meddle with each other's wives."

They had not yet adopted Buddhism.* They worshiped a "God of the Earth," who watched over their children, cattle, and crops. They had a figure of him in their perambulating homes, "and when they eat they take the fat of the meat and grease the god's mouth withal." But, modernist touch, "they pray to him only for health of mind and body."

Their drink was mare's milk, the kumiss

* See, also, in the NATIONAL GEOGRAPHIC MAGAZINE, "Banishing the Devil of Disease Among the Nashi," by Joseph F. Rock, November, 1924, and "The Land of the Yellow Lama," April, 1925.



Photograph by Dr. Franz Stoedtner

"ALL SET" FOR HOUSEKEEPING IN A KIRGHIZ PORTABLE HOME

A yurt is comfortable, ingenious, and highly adaptable to the severe climate of the steppe region of Russian Turkestan. Upon a framework of wooden poles are stretched large pieces of heavy felt, and another is hung over the doorway. Frequently the inside is carpeted and the walls hung with embroidered cloths. An entire yurt village can be dismantled and on the move as swiftly as an American circus (see illustration, page 513).

of to-day. The wealthier men wore clothes "of gold and silk stuffs, lined with costly furs, such as sable and ermine and fox skin."

Horses, camels, oxen, and cows were branded after the manner of our own West of a later date. The punishment for horse stealing was cutting the thief in two with a sword.

To his zoölogical finds Marco added the ungainly wild ass of Mongolia, the sturdy yak, which so impressed him that he took back a tuft of its silky hair to Venice, and the musk deer, unsightly godfather to the delicate perfumes of milady's boudoir. He describes the taking of the musk in this fashion:

"When the moon is full a bag or skin of coagulated blood forms itself about the umbilical region. The animal is taken, the membrane cut off, and, with its contents, is dried in the sun. A powerful perfume is produced."

Chinese customs had penetrated the border peoples. Marco patiently follows the intricacies of a native funeral. Sometimes apertures had to be cut in homes so the body might be removed in the direction its horoscope demanded. For dignitaries, rest pavilions were erected all along the procession route, so the spirit of the corpse might be refreshed for the funeral pile.

They were no mean undertakers. When a body remained long in the house they would deposit with it sweet-scented gums, camphor, and other drugs, join the coffin seams with a mixture of pitch and lime, and cover the whole with silk.

Every visitor to a mourning home had to leave presents for the dead's use in the next world. Especially would he need money. But the "money" bestowed was counterfeit, so that the manufacture of this "coffin money," to be used as a dower for the dead, later became an important industry of some Chinese cities.

Marco did not penetrate to Lake Baikal, but he had an account of the Siberians from an eyewitness. They were a people,

Photograph by Morden-Clark Asiatic Expedition

A "PORCH PARTY" AT A TIEN SHAN YURT

The group of Kirghiz women portrays the diverse physical characteristics this nomad people has acquired in its wanderings over thousands of miles of central Asia. The girl on the left has the Mongolian cast of features, while the older woman by the aperture tends to the Turkish physiognomy. The doorway of the yurt is a heavy piece of felt, rolled up when the entrance-way is open.

he related, "who have neither corn nor wine. They are a very wild race. They live by their cattle and get birds for food." Which might have been believed had he not added that their cattle were "stags," and that they rode upon the "stags"; for the reindeer was yet a novelty to civilized Europe.

Eastward from Kanchow the Polos apparently went north of the Yungchang of to-day, reaching the foot of the Ala Shan, where they found the makers of camlet, a costly fabric woven from camel's wool. They explored the great bend of the Yellow (Hwang) River and passed into Shansi through many towns where cloth of gold with mother-of-pearl was woven. They noted rich silver mines and came upon a city where the Khan's firearms were made.

On this stage of their journey they must have crossed and recrossed the Great Wall, but nowhere is it mentioned. This is one of a number of strange omissions in Marco's extensive account of China. Neither does he allude to tea, to the compressed feet of Chinese women, to cormorant fishing, to the peculiarities of Chinese writing nor to printing, except as it was used in making paper money.

Most amazing of all is his neglect to say, in his minute account of his journey across Asia, anything about his mode of travel. Probably he joined a caravan here, picked up an escort there, went horseback, assback, camelback, and afoot. But not even Capt. James Cook was more laconic about personal details.

AFTER FOUR YEARS—XANADU!

It was nearly four years after they left Venice that the Polos reached Chandu, the Xanadu of Coleridge's famous poem "Kubla Khan," and there they viewed a royal establishment which has never been excelled in richness and extent, even by Versailles.

They entered a park inclosed by a 16-mile wall, within which were fountains, rivers, brooks, and meadows, with "all

Photograph by Morden-Clark Asiatic Expedition

A FOREST OF "TREES OF STONE"

This formation of sandstone is encountered in the Tien Shan of Chinese Turkestan. From a distance it resembles a scattered growth of pines.

Photograph by Morden-Clark Asiatic Expedition

THE BROADWAY OF KASHGAR

This center of desert trade was caravan's end for the Polos after a year among the mountains and wastes of the Pamir region. Naturally, they were charmed by its refreshing gardens and vineyards and "fine estates," but something must have happened to upset the even-tempered Marco's disposition. Usually he took people as he found them, but the Kashgar citizens he characterized as "a wretched, niggardly set of people." He particularly disliked their table manners (see text, page 530).

Photograph by Morden Clark Asiatic Expedition

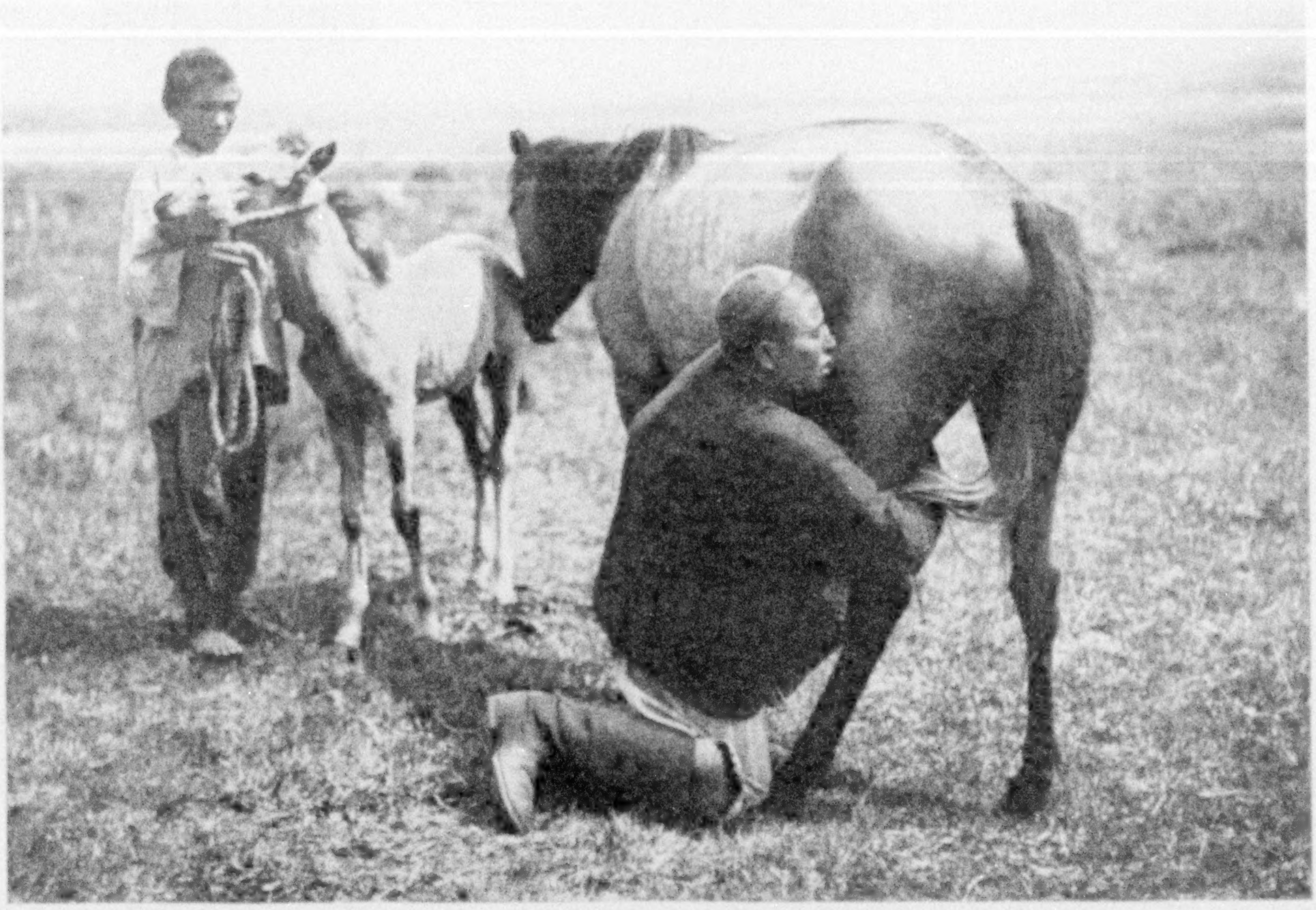
NAVIGATING THE TRACKLESS WASTES OF CHINESE TURKESTAN

"Navigating" is the correct word if one seeks sleep in the *johs*, such as those on the second camel. Chinese officials curl up inside these boxlike compartments by night, but the outlander is very apt to become seasick.

Photograph by Morden-Clark Asiatic Expedition

KALMUCK WOMEN, WHOM MARCO FOUND SO "FAIR AND WANTON"

The medieval explorer was especially shocked by the custom which permitted any woman whose husband was away from home more than 20 days to marry again. The women, to this day, owe their beauty, such as it is, to a staple diet of mares' milk.



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MILKING MARES IN THE ALTAI MOUNTAINS

When the Mongols went on the warpath, Marco explained, every man took some ten pounds of dried mares' milk with him. Each morning he would take half a pound, mix it with water, and pour it into a leather bottle tied to his horse. The jogging of the horse would churn the milk as he rode, and thus provide his dinner (see text, page 535).

kinds of wild animals," provided principally for the gerfalcons and hawks. Through this park the Khan went riding "with a leopard behind him on his horse's crop," slipping the leopard at any game that took his fancy.

Within this park was the "stately pleasure dome" of Coleridge's poem, a marble palace, every room gilded and painted with figures of men, beasts, birds, trees, and flowers. In a forest was another palace "built of cane," and this bamboo palace Marco described:

> It is gilt all over and most elaborately finished inside. It is stayed on gilt and lacquered columns, on each side of which is a dragon all gilt, the tail of which is attached to the column, whilst the head supports the architrave, and the claws likewise are stretched out right and left to support the architrave.
>
> The roof, like the rest, is formed of canes, covered with a varnish so strong and excellent that no amount of rain will rot them. These canes are a good three palms in girth and from ten to fifteen paces in length. They are cut across at each knot, and then the pieces are split so as to form from each two hollow tiles, and with these the house is roofed; only, every such tile of cane has to be nailed down to prevent the wind from lifting it. In short, the whole Palace is built of these canes, which serve also for a great variety of other useful purposes.
>
> The construction of the Palace is so devised that it can be taken down and put up again with great celerity; and it can all be taken to pieces and removed whithersoever the Emperor may command. When erected, it is braced against mishap from the wind by more than two hundred cords of silk.

It was here, his summer residence, that the Khan kept more than 10,000 horses and mares, "all pure white, without a speck." Only he, his family, and a certain privileged tribe might drink the milk of these mares.

MARCO'S INTRODUCTION AT COURT

The Khan's efficient courier system had apprised him of the travelers' approach; he sent an escort to meet them when they were yet forty days out.

A kindly, inquisitive little man, formidable only because of his magnificent robe of silk brocaded with gold, the gallant array of his knights, and the exotic chamber of gold splashed with strange figures of oriental art, welcomed the weary travelers. The older men presented the letters they carried from the Pope and the oil of the Sepulcher at Jerusalem, and answered interminable questions. Then the monarch espied young Marco.

"Sire," said his father, with the business man's directness, "'tis my son and your liegeman."

Kublai was "well pleased." The young man, with no false modesty, tells briefly, in the third person, his own success story:

"Marco, the son of Messer Nicolo, sped wondrously in learning the customs of the Tatars, as well as their language, their manner of writing, and their practice of war; in fact, he came in brief space to know several languages, and four sundry written characters. And he was discreet and prudent in every way, insomuch that the Emperor held him in great esteem."

Photograph by Joseph H. Ehlers

A "SKYSCRAPER" BUDDHA OF TATUNGFU, CHINA

Marco stood bewildered before these colossal images, which he, as did Vasco da Gama of a later day, in India, termed "idols." The height of this figure may be gauged by comparing it with the man in front.

THE KHAN RIDES FORTH TO WAR

He quickly noted the Khan's "delight in hearing of the affairs of strange countries," and ability to relate them, as he told the Venetians, won him his assignments to travel over the Mongol domain. To that training posterity owes one of the world's greatest travel narratives. Naturally he begins with the Khan and his court.

The luxury in which the Great Khan went hunting was outdone by the pomp and circumstance of his battle. Marco gave a vivid word picture of one engagement, when "the Khan was there on a hill, mounted on a great wooden bartizan, or tower, borne by four elephants." Above him was his standard, visible to troops maneuvered in battalions of 30,000 men. A great part of the horsemen "had each a foot soldier armed with a lance set on the crupper behind him."

The troops went into battle singing to the accompaniment of music on "a certain two-stringed instrument," progenitor of the balalaika, of Russian fame to-day.

Photograph by Morden-Clark Asiatic Expedition

THE "FAST FREIGHT" OF THE TAKLA MAKAN DESERT

An exhibit, in its very early evolution, of one of the greatest of human inventions—the wheel. But this vehicle is speedy compared to the heavier carts of 8-foot gauge, also used in this region of Chinese Turkestan.

Then came the call to arms, pounded on two huge kettledrums, four feet in diameter, with taut buffalo hide as the sounding board.

"They rushed to war so doughtily with their bows and their maces, with their lances and swords, and with arblasts (crossbows) of the footmen, that it was a wondrous sight to see.

AWARDING THE UMBRELLA AND SILVER CHAIRS

"Now might you behold such flights of arrows that the whole heaven was canopied with them and they fell like rain. Now might you see full many a cavalier and man at arms fall slain, insomuch that the whole field seemed covered with them."

The Khan had no "Paradise" to offer his warriors, such as that of the Old Man of the Mountain (see text, page 519), but he lavished upon them gifts of "fine jewels of gold and silver, and pearls and precious stones." They were awarded "tablets of authority," and these commissions were wrought in silver and gold, the smallest weighing more than a pound.

Moreover, the tablets of "exalted degree" entitled the holder to use an umbrella when he went abroad—"a little golden canopy carried on a spear over his head, as he sits in a silver chair"

Illustration from "Travels of Marco Polo," translated and edited by Col. Sir Henry Yule

A 22-OX TEAM OF MONGOLIA

"Mongolian wagons, drawn by oxen and camels, were covered with black felt and were water-tight. A contemporary of the Polos measured the space between the wheels of these vehicles. It was 20 feet" (see text, page 534).

The umbrella was a token of prestige in ancient Egypt. During the Middle Ages it was used principally by dignitaries of the church, and tradition has it that its introduction as an everyday affair in England, by a traveler who brought home a "sunshade" from Persia, aroused the wrath of hackney coachmen, who regarded it as a competitor of their vehicles.

After the manner of the most modern biographers, Marco sketched the appearance and intimate details of the life of his hero, Kublai Khan.

"He is of good stature, of a middle height," the Venetian wrote. "His complexion is white and red, the eyes black and fine, the nose well formed and well set on.

WHEN POLYGAMY GREW COSTLY

"He has four wives whom he retains permanently. These four ladies are called empresses, and each of them has a special court of her own, very grand and ample, no one of them having fewer than 300 fair and charming damsels as retainers. They also have pages and eunuchs, so that each of these ladies has not less than 10,000 persons attached to her court."

The Emperor also had a "great number" of concubines. From a certain tribe whose women were noted for their beauty, Marco related, a hundred of the most beautiful maidens were sent each year to the Great Khan's court. There they were committed to the charge of trusted "elderly ladies," and "these old ladies make the girls sleep with them to ascertain if they have sweet breath and do not snore and are sound in all their limbs."

The Khan's Winter Palace at Peking has been described (see text, page 511). Marco pictures a feast in the great hall, where 6,000 guests may dine.

The monarch sat at a table on a dais, his feet on a level with the heads of his courtiers. On a lower tier were lesser barons and soldiers, and below them were lesser guests, "the tables so disposed that the Emperor can see the whole of them from end to end."

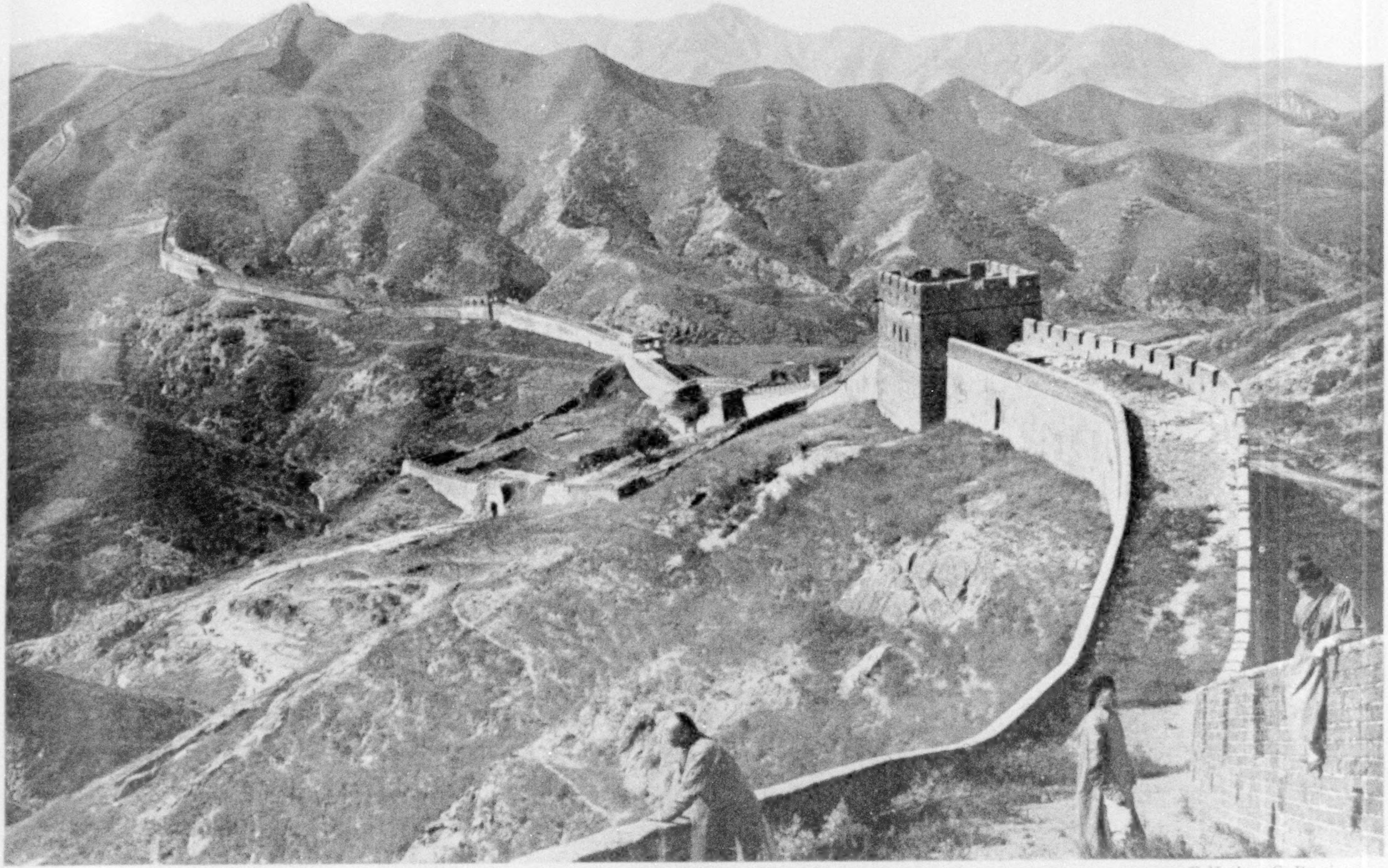
Soldiers sit on the carpets in the halls; outside there would be 40,000 or more people, who brought presents to their lord, or "come from foreign countries with curiosities."

Near where the Great Khan holds his table, there is set a large and very beautiful piece of workmanship in the form of a

Photograph courtesy U. S. Department of Agriculture

THE DAGOBA OF THE WINTER PALACE AT PEKING

The buildings are comparatively modern, but the site is the marsh reclaimed by Kublai Khan for his amazing oriental Versailles (see text, page 537). Close by are the Purple Forbidden Palace, the famous figures of demon leaders of dissenting sects held in subjection by geese, the Altar of the First Silkworm Bred, and a mulberry grove where silkworms were once reared to provide empresses with thread for spinning, so they might set a national example.



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A "HORSESHOE CURVE" OF THE GREAT WALL OF CHINA

Near Peking the rampart seems puny; but when one climbs out of the Nankow Pass and views its course from the hills above, where this view was taken, he senses the majesty of mankind's mightiest structure. "Away it goes, before and behind—up, up the topmost ridges of the hills, bending, swinging, climbing, leaping like the supple dragons of the palace-garden screen. It undulates, it sways, it marches before, it takes the curve of the hills like a swift auto on a mountain road" (see "A Thousand Miles Along the Great Wall of China," by Adam Warwick, in the NATIONAL GEOGRAPHIC MAGAZINE for February, 1923).

Photograph courtesy U. S. Department of Agriculture

THE MARCO POLO BRIDGE OF LUKOWKIAO, NEAR PEKING

Speeding along a new railroad bridge across the Hun Ho, the modern traveler descries the ancient span, half a mile downriver, which the Venetian mentioned. Along the sides are 140 pillars, each surmounted by a lion of beautiful workmanship, and at the ends are tablets bearing inscriptions composed by Manchu emperors (see, also, text, page 556).

square coffer, or buffet, about three paces each way, exquisitely wrought with figures of animals, finely carved and gilt. The middle is hollow, and in it stands a great vessel of pure gold, holding as much as an ordinary butt; and at each corner of the great vessel is one of smaller size, of the capacity of a firkin, and from the former the wine or beverage flavored with fine and costly spices is drawn off into the latter.

And on the buffet aforesaid are set all the lord's drinking vessels, among which are certain pitchers of the finest gold, which are called *verniques*, and are big enough to hold drink for eight or ten persons. And one of these is put between every two persons, besides a couple of golden cups with handles, so that every man helps himself from the pitcher that stands between him and his neighbor. And the ladies are supplied in the same way.

The value of these pitchers and cups is something immense; in fact, the Great Khan has such a quantity of this kind of plate, and of gold and silver in other shapes, as no one ever before saw or heard tell of or could believe.

Certain barons were deputed to seat the guests according to rank, and at every door stood two "big men like giants, armed with staves." Their business was to see that no one stepped upon the threshold in entering. When that occurred the offender was stripped of his clothes.

However, the Emperor was a practical man. The guests were "not expected to stick at this in going forth again, for at that time some are like to be the worse for liquor and incapable of looking to their steps."

SERVITORS WEAR MOUTH MUFFLERS

His Majesty, sensitive, as previously noted, to ill smells, was waited upon only by servitors, who had "mouth and nose muffled with fine napkins of silk and gold, so that no breath or odor from their persons should taint the dish or the goblet."

A further sanitary note is provided. "Every one of the chiefs and nobles carries always with him a handsome little vessel to spit in whilst he remains in the Hall of Audience—for no one dares spit on the floor of the hall—and when he hath spitten he covers it up and puts it aside."

Photograph courtesy U. S. Department of Agriculture

THE OLDEST ASTRONOMICAL OBSERVATORY IN THE WORLD

This station in Peking was established by Kublai Khan in 1279, and above the instruments which date from his time (see text, page 553) has been stretched a wireless antenna. To the instruments were added others designed by the famous "astronomical missionary," Father Verbiest, in the 17th century; but even these were executed in Chinese style, supported by bronze dragons. Thus this wall of the Inner City is a shrine to science, marking its progress from the hazy notions of astrology to the marvels of modern radio.

Pocket cuspidors are still found in China, as are the golden toothpicks, with an ear spoon at the opposite end.

The most colorful event of the Khan's social season was his birthday feast, when he dressed in silk robes "all wrought with beaten gold," and each of his 12,000 barons and knights came forth in robes of the same color or pattern. Since the Great Khan presented each of his 12,000 chosen dignitaries with a robe to match his own upon 13 occasions every year, he had need of the wardrobe warehouses that Marco has described.

PARADE OF THE 5,000 ELEPHANTS

On New Year's Day the color demanded was white, and on that day presents were brought—presents of gold, silver, pearls, gems, silks, and white horses. Marco assures us that more than 100,000 white horses, all richly caparisoned, would be given him. It was bad form to give His Majesty one of anything; the etiquette called for nine times nine of any offering.

But the most memorable sight of the great "white feast" must have been the march of the Khan's elephants—5,000 or more of them—bedecked with rich and gay cloth with inlays of hearts and birds, each carrying two splendid coffers filled with the Emperor's plate and other treasures.

After dinner came the feats of jugglers, conjurers, and magicians, which the wondering Marco describes in great detail.

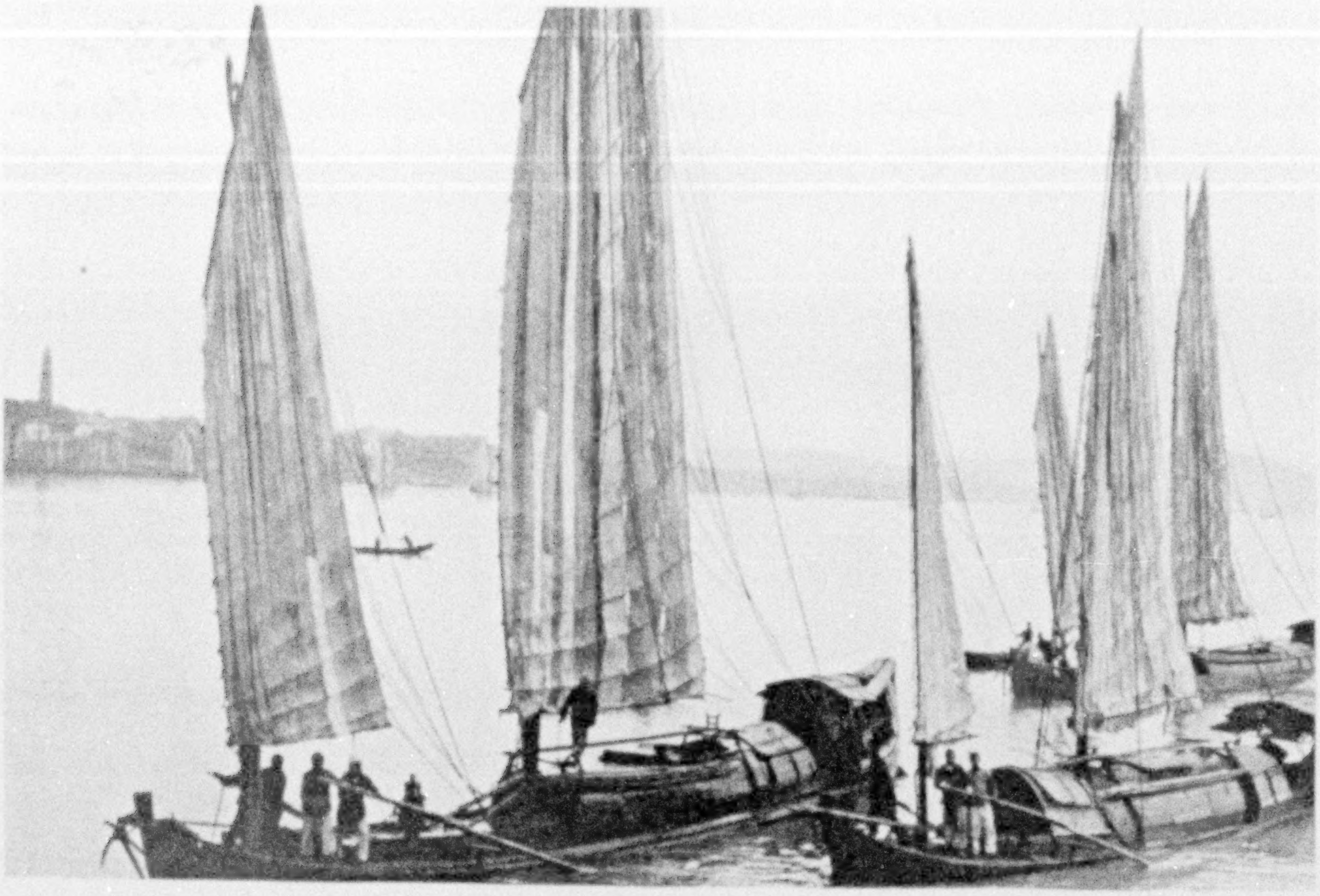
There long had been a city on the site of Peking when Kublai chose it for his winter capital. He reared the new city across a stream, a location marked by the Tatar city of to-day.

Booths and shops lined streets laid out in the checkerboard fashion of Philadelphia. A thousand men guarded each of twelve gates. By night a great bell sounded a curfew. After its third stroke no person dared be found on the streets except upon "urgent business," defined as

Photograph by Joseph Beech

A TRACKERS' SHELTER IN THE "GRAND CANYON" OF THE YANGTZE

River boats are hauled through the Yangtze gorges by these trackers, who tug the shore ends of bamboo hawsers that sometimes are half a mile long. To-day, as in Marco Polo's time, the main trade artery of vast Szechwan Province is through the gorges of China's mighty river.



Photograph by Maynard Owen Williams

SHIPPING ON THE BUSIEST RIVER IN THE WORLD

These heavy-laden Chinese junks, with sails composed of strips of cloth, woven together with bamboo stay-rods, are similar to the craft that Marco described on the Yangtze. He estimated that China's great river carried more shipping than all the waterways of Christendom in his day (see text, page 557).

being "for the needs of a woman in labor or for the sick." Those going on such errands were required to carry a lantern.

Outside the gates were suburbs whose population outnumbered that of the city. Therein were numerous caravansaries for merchants from distant parts. Marco adds the sociological note that the number of public women exceeded 25,000.

HOW THE KHAN "MADE" MONEY

In contrast to the barbaric pageantry of funeral rites were the careful sanitary measures employed in disposing of the dead. "If the body be that of an Idolater," Marco wrote, "it is carried out beyond the city and suburbs to a remote place assigned for the purpose, to be burned. And if it is one belonging to a religion the custom of which is to bury, such as the Christian, the Saracen, or what not, it is also carried out beyond the suburbs to a distant place assigned for the purpose. And thus the city is preserved in a better and more healthy state."

The currency of the Mongol realm, Marco related, was paper money, made from the inner bark of the mulberry tree, a material still employed for oriental paper. The Venetian merchants were amazed that this fiat money was universally accepted, but found an explanation in the law which fixed the death penalty for refusing it.

The bark paper was cut into various sizes, stamped and signed by high officials, but became legal tender only after the Khan's treasurer had affixed the royal vermilion seal.

This currency was turned out in "vast quantities." Its issuance was marked by great pomp. The merchants who brought wares from all over the Khan's domain were compelled to sell to him alone. He had the articles appraised, fairly enough, and their rich treasure went to swell his personal accumulation, merely for the price of printing more money.

There even was a provision for redemption of worn-out money. One might exchange it at the "mint" on payment of a 3 per cent fee. The Khan shrewdly

Photograph by Alfred Chial

THIS FUNERAL PROCESSION OF SHANGHAI RESEMBLES A PAGEANT

Many of the ceremonies that Marco described survive, except that in his time cremation was widely practiced. In Hangchow, he wrote: "When anyone dies the friends and relatives make a great mourning for the deceased, and clothe themselves in hempen garments, and follow the corpse, playing on a variety of instruments and singing hymns to their idols. And when they come to the burning place, they take representations of things cut out of parchment, such as caparisoned horses, male and female slaves, camels, armor, suits of cloth of gold and money, in great quantities, and these things they put on the fire along with the corpse. And they tell you that the dead man shall have all these slaves and animals of which the effigies are burnt, alive in flesh and blood, and the money in gold, at his disposal in the next world."

helped stabilize his enormous flotations by selling "gold or silver or gems or pearls" from his storehouse and accepting the paper money in payment.

HAD "PARCEL POST" AND "SPECIAL DELIVERY"

Far more admirable, from the modern viewpoint, was the Khan's postal system. Radiating from Peking were highways to various provinces, along which were "horse posthouses" at intervals of 25 miles. These stations were handsomely equipped and at the major ones were kept 400 horses. Even through roadless tracts they were maintained.

Between the posthouses were shelters for foot runners. These runners wore wide belts "set all over with bells, so that as they run the three miles from post to post their bells are heard jingling a long way off." This assured relays being ready to seize a message instantly.

The system even had parcel-post and special-delivery features. In season the Khan ate fruit for supper at Xanadu which had been gathered that morning at Peking—ordinarily ten days distant.

Moreover, at these stations were men, similarly equipped, employed for expresses when the monarch was in haste to communicate with provincial governors. "These men," Marco stated, "travel a good 200 or 300 miles in the day and as much in the night." And this in the 13th century!

Horses stood at stations, ready saddled, and when the approaching bells were heard, horse and rider were equipped to carry on. These riders were highly rewarded, and, it is explained, "they could never do it did they not bind hard the

Photograph by E. L. Estabrook

WEIGHING COAL WITH A CHINESE BALANCE ROD

The loads are brought down on donkey back from Shensi mountain mines three days' distant. Marco's report of this fuel was skeptically received by Venetians. "There is found a sort of black stone," he wrote. "When lighted it burns like charcoal and retains the fire better than wood" (see text, page 556).

stomach, chest, and head with strong bands."

Such a system was far ahead of European communications of the period; naturally, the Venetians were impressed. Marco exclaimed, "And in sooth this is a thing done on the greatest scale of magnificence that ever was seen. On all these posts, taken together, there are more than 300,000 horses kept up, specially for the use of the messengers."

Accustomed to read of the famines that assail whole provinces of China to-day, and imperiled India until England built railways there, one is astonished at the measures the Great Khan adopted to avert that menace. They sound like a composite of Pharaoh's program after Joseph's dream of the lean years and the equalization fee of modern farm-relief proposals.

When corn was cheap—and corn meant wheat, millet, rice, and barley—the Emperor bought up large quantities for storage in great granaries throughout his provinces. When crops failed or locusts depleted them, he sold this corn at nominal prices, and "by this providence of the Emperor his people can never suffer from dearth."

The Khan's grandiose paternalism reached a climax in his charities. He levied tithes on all food and clothing producers to provide a dole for the poor. "All those who choose to go to the daily dole at the court receive a great loaf apiece from the baking, and nobody is denied." Some 30,000 persons applied each day for food and clothing.

In one respect China was better off in those days than now. All along the great highways trees were planted, even in sparsely populated areas.

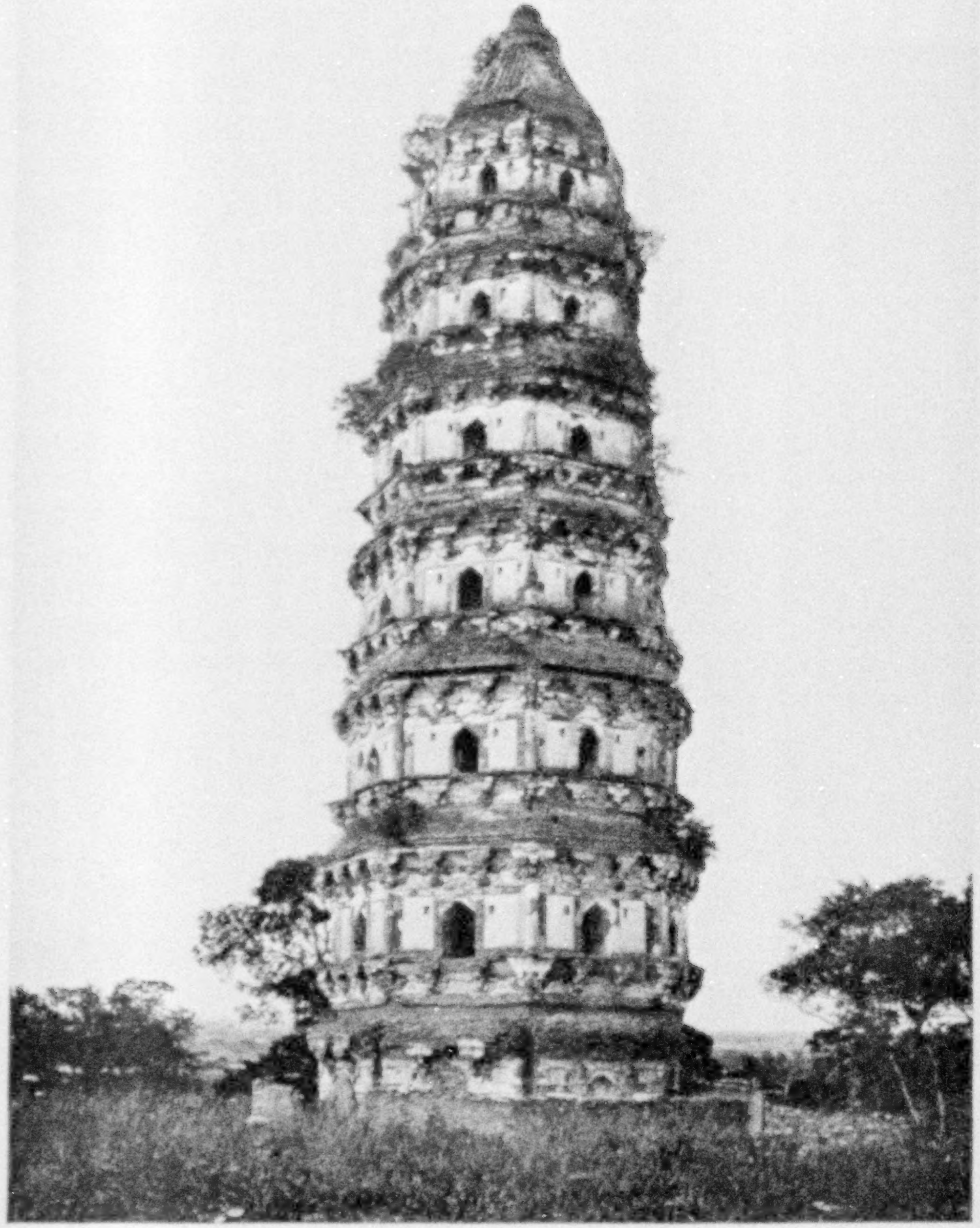
DISCOVERS A "BLACK STONE" WHICH BURNS

All this is not to say the great Mongol was wholly an enlightened ruler. Astrologers had great influence at his court. The astrolabe, with its planetary symbols, often determined a war or dictated a state policy. Among the beautiful bronze instruments taken to Berlin after the Boxer

Photograph by Joseph F. Rock

IN THE "WILD WEST" OF CHINA

Into this valley of the Litang River, in Szechwan, Joseph F. Rock, heading a National Geographic Society expedition, penetrated in 1924. Little more is known to-day about this region than in Marco Polo's time. During his travels Doctor Rock divided his time between collecting botanical specimens and eluding brigands. Frequently he would engage a large escort only to find them untrustworthy; whereupon he would procure a second guard to watch the first one (see, also, pages 569 to 619).



Photograph from Prof. David M. Robinson

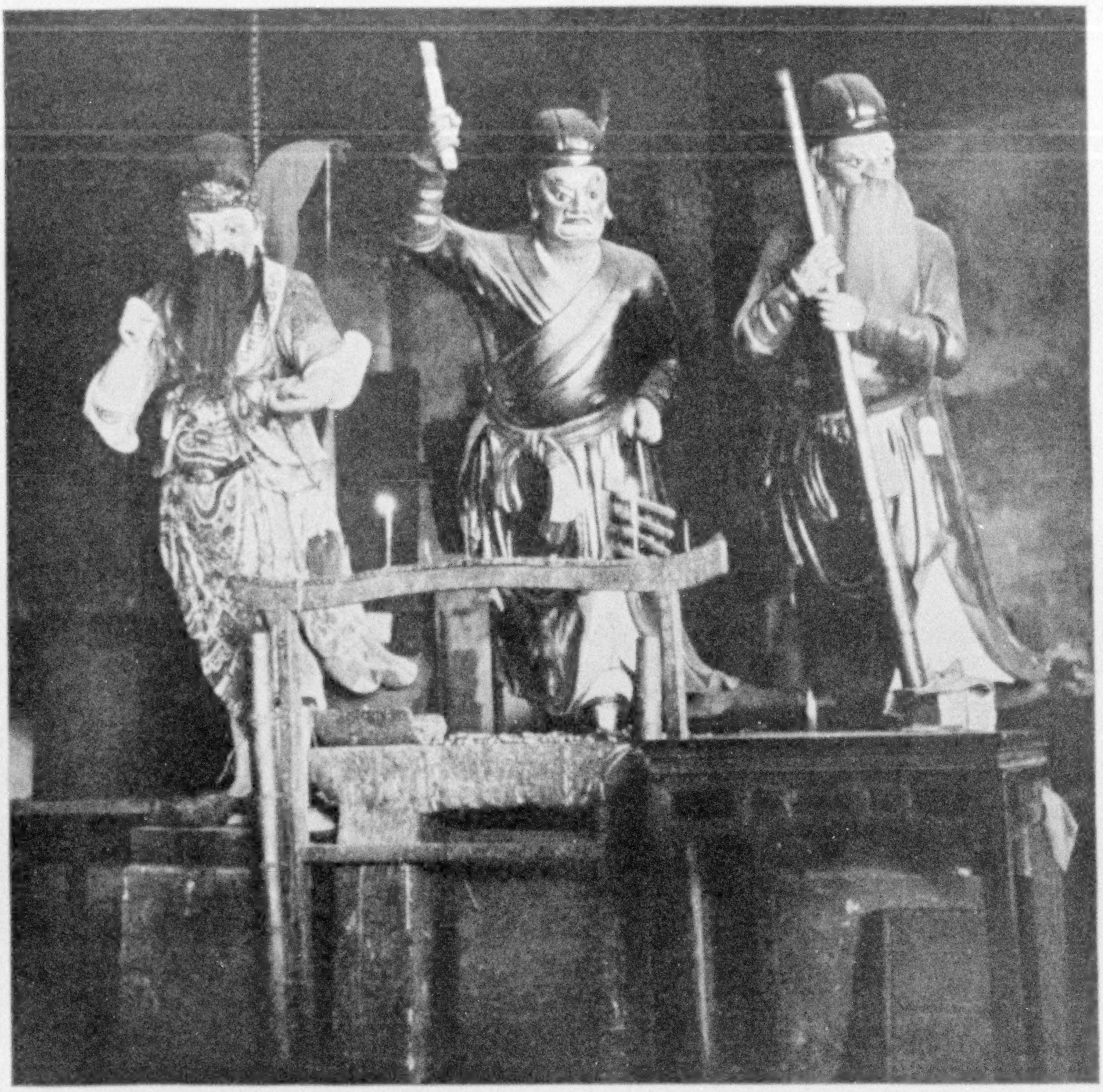
THE "LEANING TOWER" OF SOOCHOW

The Tiger Hill Pagoda was one of the wonders of the city whose wealth was so great that Marco opined that "if the men had but the spirit of soldiers they would conquer the world" (see text, page 558).

Photograph by Dr. Camillo Schneider

A ROAD THAT HAS NEVER KNOWN A WHEEL

There are many more like it in Yünnan Province. Marco traveled this in chairs borne by porters. In isolated Yünnan the Venetian came upon Nestorian Christians, weird "devil dancers," and strange tribal customs.



Photograph by J. B. Sawyer

TEMPLE "IDOLS" OF SOOCHOW

The figures are of wood covered with clay and straw, then painted. They are wonderfully life-like. Worshipers leave lighted candles and drop their coppers in the upright bamboo tubes.

Rebellion, and ordered returned to Peking by the Treaty of Versailles, were some of these devices of the Great Khan's astrologers (see, also, page 549).

Marco struggled to describe the Tatar calendar cycles and got badly mixed. His geology was better than his astronomy

"There is found a sort of black stone," [coal] he wrote, "which they dig out of the mountains, where it runs in veins. When lighted it burns like charcoal and retains the fire better than wood; insomuch that it may be preserved during the night, and in the morning be found still burning. These stones do not flame, excepting a little when first lighted, but during their ignition give out a considerable heat."

After his panorama of court life and the provinces, Marco starts southwest over the imperial highway, across the famous bridge of the Hun Ho (see page 548), to Taiyuanfu, then, as now, capital of Shansi. And he comes upon the Yellow River.

He pronounced it the greatest river in the world, which it was to his world. The Amazon and the Mississippi were undiscovered; the upper Nile was little known; he was yet to see the Yangtze.

On, then, to Sianfu, marveling at its walls, palaces, armories. Next through the lofty mountains and gorges of southern Shensi into Szechwan. He is out of Cathay, the Khan's dominion, into Manzi, then under the Sung dynasty.

Photograph by Dr. Camillo Schneider

MARKET DAY AT TALIFU, YÜNNAN PROVINCE, CHINA

With the produce on sale at this market the American housewife would be familiar. This little-known province of China, seldom visited except by explorers (see illustration, page 555), duplicates soil and climate conditions found in major agricultural areas of the United States—so much so that it has been a favorite hunting ground for the U. S. Department of Agriculture's plant explorers.

There, in to-day's "Wild West" of China, where a National Geographic Society expedition braved bandits to bring back blight-resisting chestnut trees and new rhododendrons and much scientific data, Marco moved serenely on his observant way. The Yangtze appeared to him more an inland sea than a river. At one time he professed to see 5,000 craft upon it, and its traffic he estimated greater than that of all the waterways of Christendom (see pages 550, 551).

From Chengtu he struck westward and found strange tribes and shocking ways. The natives would not marry a virtuous maiden, he wrote.

"But," he adds, "no person dare meddle with her who is the wife of another, and this rule is never infringed."

It was among these people that Marco found "enchanters and astrologers," whom he proclaimed to be "the best that exist in all that quarter of the world," and, for once, he recoils at telling wonders because they would not be believed. "I will relate none of them," he wrote. "People would be amazed if they heard them, but it would serve no good purpose."

In isolated Yünnanfu he came upon Nestorian Christians; to the west of Yünnan Province, about Talifu, he found the weird "devil dancers" practicing their rites with black-faced sheep. Their men, who covered their upper and lower teeth with gold plates, raised a fine breed of horses for the India trade. They wore armor of boiled leather. They used porcelain and salt for currency, obtaining the latter from springs and drying it by boiling in pans.

Here, too, he found the "serpents" thirty feet long, "with jaws wide enough to swallow a man."

"Yes," he told the skeptical Venetians, if he talked as he wrote, "they hunt these snakes by waiting until they drag themselves to the water to drink. There spiked sticks are placed and concealed with sand, so that when the heavy creatures crawl over the sand they sink into the spikes and can be slain.

"Their gall in a little wine is good for a mad-dog bite; it accelerates the delivery of a child; it is administered for skin diseases, and the flesh is a great delicacy."

So his neighbors, ignorant of crocodiles, tapped their heads meaningly, perhaps a bit pityingly.

Marco seems to have penetrated Burma well down toward Mandalay, and he learned much about Laos and Tonkin from hearsay.

Then he takes another of his casual fresh starts, jumping his narrative back to a crossroad south of Peking, and pictures the country southeast to the coast.

He halts at ancient Yangchow, central salt market, where he "held rule during three years"; visits Chinkiang, overlooking the noble "Golden Island"; broods over the beauty of Soochow, "Paris of the East," city of silk, philosophers, and 6,000 bridges.* Such are the riches that, if the Manzi were soldiers, he exclaims, they might subdue the world!

MARCO DAZZLED BY "THE CITY OF HEAVEN"

But at Hangchow he pauses long and lovingly. Here is the noblest city of them all.

Canals and spacious squares—an eastern Venice. A lake of exquisite beauty, thirty miles around, lined with richest mansions and nobles' palaces, dotted with park islands for marriages, festivals, and "honorable picnics." No cheap amusement resorts these; their pagodas were fit for an emperor, their table service was silver plate. On the lake were pleasure boats and barges, all equipped for feasts, poled "from the roof which forms a level deck."

Marco is telling, of course, of West Lake, whose willows and orioles, whose "Fish-seeing Pavilion" and pagoda of "Day-dawn Bell Sound on Nanping Hill," whose "Ten Sights," or 36, or 72, have been sung by the classic and ultraliteral Chinese poets.

Ashore are broad, paved streets, along which the residents must write their names above their doors, whose hostelry keepers are "bound to register the names and surnames" of all guests.

* See, also, "Ho for the Soochow Ho," by Mabel Craft Deering, in the NATIONAL GEOGRAPHIC MAGAZINE for June, 1927.

There are ten main market squares, each frequented by from 40,000 to 50,000 persons each week, to buy "meat and game, as of roebuck, red deer, fallow deer, hares, rabbits, partridges, pheasants, francolins, quails, fowls, capons, and of ducks and geese an infinite variety." There also are huge slaughterhouses for oxen, calves, and lambs.

Everyone wears silk; it is so cheap and plentiful. And the women of this city are so "splendidly attired and abundantly perfumed," they are such "dainty and angelical creatures" that strangers "seem to get bewitched" and go back home babbling of the day when they may return to "the City of Heaven."

Provisions were so plentiful that, to Marco's wonder, "they eat fish and flesh at the same meal!"

There were twelve rich craft guilds, each having "12,000 houses in the occupation of its workmen." To give an example of the "vast consumption" of this city, Marco consulted a customs officer about pepper, and was informed that the daily use was "43 loads, each load being equal to 223 pounds."

The houses were of timber and fires frequent, so that lofty towers of stone afforded what we would term safety-deposit vaults for treasures. The streets were patrolled constantly by the fire watch.

On a high hill was a tower and at its top a slab of wood. Whenever a fire broke out, the keeper beat with his mallet upon the slab, "making a noise that is heard to a great distance."

Ships came from distant parts, especially from India, into the canals with dazzling displays of cloths, curios, gold and silver jewels, pearls, and precious stones.

This city lacked only one thing, he remarked—courage among its men. So, like Baghdad, it fell to the Tatars.

For 17 years Marco Polo roamed Cathay and its neighbor lands; so that his 82 chapters about China alone tell more of the lives of the people and their customs than we know of many areas of Europe during the same period.

But, comforting fact for the novice, with the passing of the years the world's greatest overland traveler grew homesick. Likewise his father and his uncle. Pleas that they be permitted to return to Venice

Photograph by Anderson

SCENE OF VENETIAN TRIUMPHS AND CEREMONIES

Best known of the many landings in Venice is the Piazzetta, flanked on one side by the Doges' Palace, on the other by the Old Library and the world-famous Campanile. Between these, at the water's edge, rise the white columns erected more than 100 years before the return of Marco Polo from his wanderings in Asia. One bears the Winged Lion of St. Mark, symbol of the city's majesty; the other St. Theodore, patron of the Republic, seated on a crocodile.

Photograph by Kilophot

THE NOBLEST DOME OF VENICE WAS ERECTED AS A THANK OFFERING

The Church of Santa Maria della Salute (St. Mary of the Good Health) was built in the middle of the seventeenth century, as a symbol of the city's gratitude for deliverance from the plague. It is seen across the Grand Canal over a forest of *pali*, the ornamental posts to which gondolas are tied.

Photograph by Kilophot

THE RIALTO BRIDGE, THE TIMES SQUARE AND PICCADILLY CIRCUS OF VENICE

Even in Marco Polo's early years the Grand Canal was bridged at this same point, but by a passageway built on boats. He probably saw the first wooden bridge erected in 1264 and crossed it on his return to the city in 1295. The present bridge of stone has been in place for three and a half centuries.

Photograph by Donald McLeish

THE MOST PHOTOGRAPHED SPOT IN ITALY

Not only do the romance and mystery that cling to the Bridge of Sighs give it power to take its annual toll of thousands of feet of camera film, but every visitor to Venice is sure to pass over the low bridge (in the background) that spans the same canal near by. From the latter the Bridge of Sighs is a shining and irresistible snapshot mark.

Photograph by A. G. Wehrli

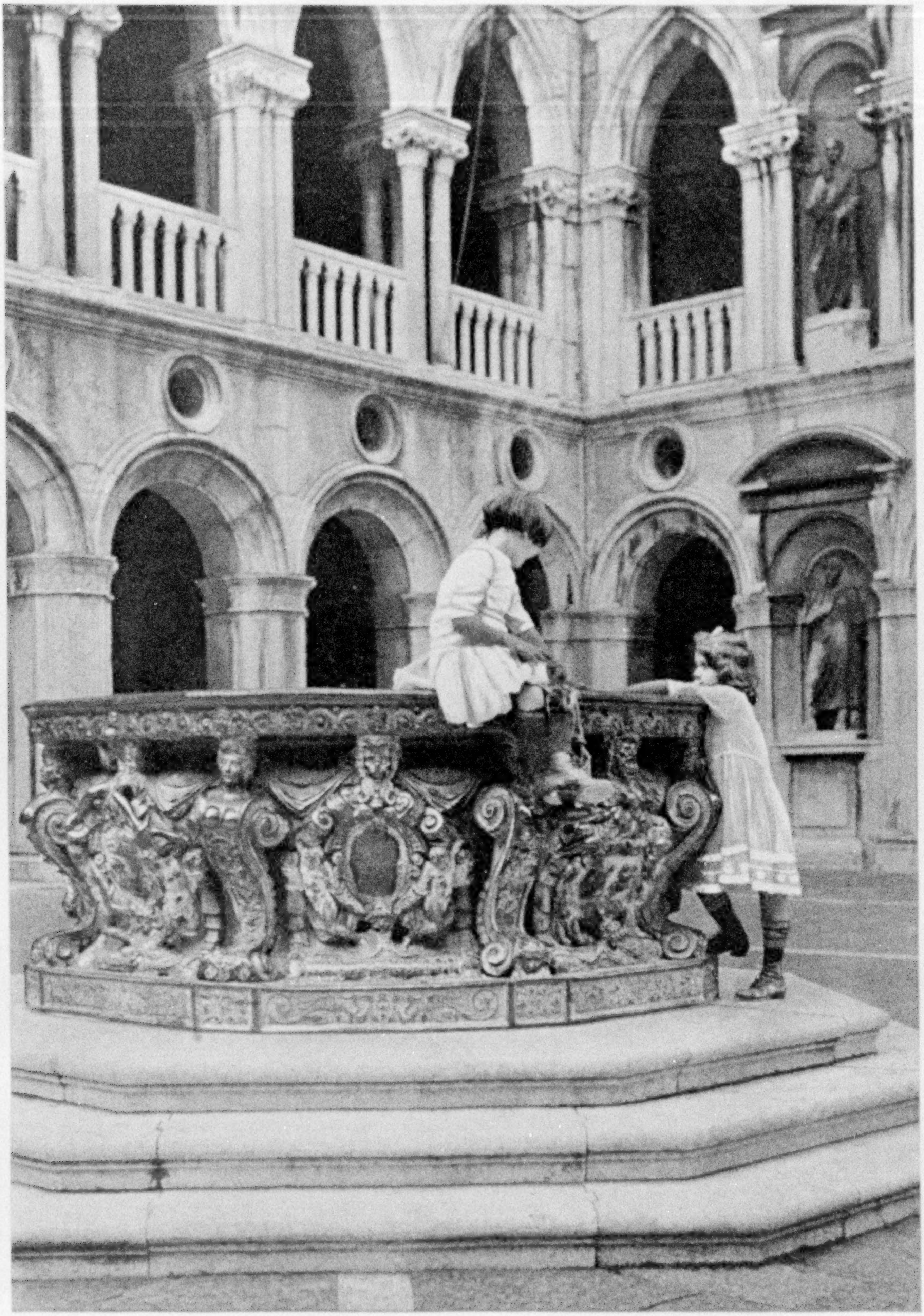
THROUGH THIS SEA GATE CAME THE WEALTH OF THE INDIES

From the loggia of the Doges' Palace the visitor sees, framed by arches of stone, the wedding of water and land that made Venice great. To the right is the Campanile of the Church of San Giorgio Maggiore, on the island that marks the entrance to the city's two greatest canals. Beyond lies the lagoon, Venice's outer harbor, and in the distance is the Lido.

Photograph by Donald McLeish

THE ORNATE MAIN DOORWAY TO THE DOGES' PALACE

On the left is an outer angle of the Basilica of St. Mark, with a sculptured group brought from the East. Above a pillar on the right is the famous group representing the Judgment of Solomon.



Photograph by Donald McLeish

MEDIEVAL VENICE KEPT ITS FRESH WATER IN CISTERNS

Although the Queen of the Adriatic has existed for more than 1,100 years surrounded by the salty waters of her lagoon, fresh water has often been a rare and precious fluid. This bronze wellhead, cast in 1556, is in the courtyard of the Doges' Palace.

Photograph by Anderson

ST. MARK'S RISES IN ORIENTAL SPLENDOR BESIDE THE GREAT PIAZZA

The Piazza of St. Mark has been the scene of countless triumphs and pageants. It is faced on three sides by colonnaded mercantile buildings and on the fourth by the Basilica. From one corner rises the stately Campanile, a reproduction of the tower that stood in Marco Polo's day and fell in 1902.

met only a frowning refusal from the Khan.

Then came envoys from the court of Persia, bearing the request of the Ilkhan that, in accord with the wishes of his dying wife, her successor to his hand be chosen from her kin in Mongolia.

Kublai chose a queen, the fair Kukachin; but wars had broken out in Turkestan and it was determined to convey her to Persia by sea. The Polos saw their chance. With all their progress, the Tatars knew little navigation; the Venetian was at home on any sea. Moreover, Marco had just returned from a voyage to the Indies.

THIRTEEN SHIPS FOR A BRIDAL PARTY

So the Great Khan gladly fitted out thirteen ships, stocked them with two years' provisions, and provided every facility with lavish hand, but reluctantly parted with Nicolo, Maffeo, and Marco Polo.

Upon them he bestowed "tablets of authority," which served as passports and letters of unlimited credit, and, last gesture of the man who had tried so hard to know Christendom, he gave them letters for the Kings of France, Spain, and England.

Of his actual voyage Marco told as little as he did of his land locomotion. But in another connection he described the ocean-going ships of the Chinese merchantmen, so we can picture the vessels he helped pilot from a port of Fukien Province to Ormuz.

ORIENT'S SHIPS HAD WATER-TIGHT COMPARTMENTS

They were four-masters, made of fir, double-planked, with a single deck. They had stout iron nails, huge wooden anchors, and "wood oil" took the place of pitch. Their compartments were water-tight, a feature not yet observable in the Mediterranean. It took four men to wield one of the massive oars, held in reserve for calms. They were manned by crews of from 200 to 300 sailors.

It was a long voyage and must have been an adventurous one. Of 600 members of the expedition, other than the sailors, only 13 survived. But after two years the Tatar maiden was escorted safely to the Persian court, and she wept when she took leave of her Venetian guardians—tears that brewed many a romance of subsequent writers and launched a play on Broadway as recently as 1927.

Instead of telling about his homeward voyage, Marco wrote of the countries he touched and the places he heard about, including observations made on voyages while he was yet in the Khan's service.

He described the ebony and elephants of Cochin China, the "immense and very wealthy" Java, and Sumatra, where he exploded the pygmy myth. But he did find the fabled unicorn, an animal that had "hair like that of a buffalo, feet like those of an elephant, and a horn in the middle of its forehead"—a picture of the rhinoceros that rivals Captain Cook's account of the kangaroo.

He viewed the pearl fishers of Ceylon,* told the story of Buddha, and made the first European mention of Madagascar, Zanzibar, the Andamans, and other regions of the south, just as he had been the first to garner any information about Japan and Siberia and the first to mention the Arctic seas.

For a delightful blend of legend and fact his chapters on India are memorable. Then Persia, then home, in 1295.

EXPLORER JOINS VENETIAN "NAVY" AS "GENTLEMAN COMMANDER"

The Polos' reception in Venice has been related (see text, page 505). They settled down as respectable merchants. They told strange stories, but wealth is permitted a certain degree of eccentricity.

For three years they lived thus and no word of their trip was committed to paper. The journal might never have been written were it not for a seemingly unrelated event. In 1298 the Doge of Venice, "Lord," among other things, "of three-eighths of Romania," sent out a fleet that attacked the Genoese off Dalmatia.

Marco Polo went as "gentleman commander" of a Venetian galley, probably one of the mammoth three-banked war galleys. It was a glorious maritime spectacle, painted vermilion and gold, with gilded poop and ornate figurehead, hoisting huge auxiliary sails and flying scores of enormous flags that all but obscured

* See, also, "Fishing for Pearls in the Indian Ocean," by Bella Sidney Woolf, in the National Geographic Magazine for February, 1926.

the canvas. The sails themselves were striped in bright colors, like a gaudy modern awning.

The battle waged all day. The proud ships of Venice were beaten, pivoted stern foremost toward port, dragging their colors on the sea. The haughty admiral, Dandolo, dashed his head against a bench. Some 7,000 Venetian prisoners were herded into Genoese jails. Among them was Marco Polo.

In prison with Marco was a Pisan of some literary attainment, Rusticiano by name, and by way of passing the time Marco Polo dictated to him the story of his travels.

WRITING A CONTINENT'S GEOGRAPHY FROM MEMORY

Obviously Marco had no notes; his feat of memory was amazing. Try to write the geography of your last vacation, recalling the county, towns, industries, localities of the area you visited, and you will gain some slight appreciation of the man who dictated an atlas of Asia, setting down much of its history and legend, describing its peoples, animals and plants, and formulating working gazetteers of its principal countries.

Twenty-four hours after such explorers reached home the civilized world to-day would know of their achievement. Venice had no printing presses. The narrative probably was first written in French. In the course of the next 150 years some fourscore copies and translations were extant, but it was not printed until 1447. There is no evidence that Columbus, setting out to find China and Japan 200 years after Marco's return, ever saw the extensive descriptions of those places dictated in Christopher's own home city.*

The few Venetians who scanned the narrative during Polo's lifetime were skeptical of those parts except the places where their tradesmen were penetrating. His only immediate fame was the jeering nickname, "Marco Millions." For many years the carnivals of Venice were sure to include a clownlike figure portraying some myth related by the city's "Munchausen."

A copyist of Florence, engaged to transcribe his manuscript, apologizes in a preface: "The contents seem to me incredible things, not lies so much as miracles; and it may be all very true what he says, but I don't believe it."

Map makers continued to represent the earth's surface on a circular disk, with Jerusalem as the center of all things, and the land area marked off by a sort of capital T, the half circle being Asia and the two quarter circles containing Europe and Africa. The Caspian sometimes was represented as a gulf of the ocean, and the Indian Ocean as a large lake, though Polo had accurately classified both.

On his deathbed friends urged him, for the sake of his soul, to retract his incredible narrative. Marco Polo's only reply to their pleadings, tradition tells, was the simple comment, "I have not told half of what I saw."

* See, also, "Genoa, Where Columbus Learned to Love the Sea," by McFall Kerbey, in the NATIONAL GEOGRAPHIC MAGAZINE for September, 1928.

THE "MAP OF DISCOVERY" WITH THIS NUMBER

AS A supplement with this number, the NATIONAL GEOGRAPHIC MAGAZINE presents its readers with the fourth reproduction in colors of a series of five mural paintings executed by the American artist, Mr. N. C. Wyeth, for the headquarters of the National Geographic Society in Washington, D. C. The murals reproduced previously this year were "The Discoverer" in March, "Commander Byrd at the North Pole" in May, and "The Caravels of Columbus" in July. A limited edition of these notable color subjects, unfolded, is available to members at the following costs: "The Discoverer," size 10 x 32 inches, $1.50 unframed, $7 framed; "Commander Byrd at the North Pole" and "The Caravels of Columbus," size 10 x 13½ inches, each $1 unframed, $5 framed; "Map of Discovery," Eastern Hemisphere, 16¾ x 18½ inches, $1 unframed, $6 framed. A special frontispiece, "Fate Directs the Faltering Footsteps of Columbus," 10 x 13½ inches (from a painting by Alfred Dehodencq), was issued with the September number. Unfolded, $1; framed, $5. All forwarded prepaid in the United States and Canada.

LIFE AMONG THE LAMAS OF CHONI

Describing the Mystery Plays and Butter Festival in the Monastery of an Almost Unknown Tibetan Principality in Kansu Province, China

By Joseph F. Rock

Leader of the National Geographic Society Yünnan Expedition, 1927-1929

Author of "Through the Great River Trenches of Asia," "The Land of the Yellow Lama," "Experiences of a Lone Geographer," etc., in the National Geographic Magazine

With Illustrations from Photographs by the Author

When my caravan left Yünnanfu in the winter of 1924, bound for Kansu Province, in the extreme northwest of China, and eventually for the great Amnyi Machen Mountains,* I — in common with some 300,000,000 Chinese and perhaps as many foreigners—was totally unaware of the existence of Choni. It was in the course of my journey in search of rare plants for the Arnold Arboretum that I learned of this ancient Tibetan principality ruled by a hereditary prince.

I was told that from the monastery of Labrang, five days north of Choni, one could easily reach Radja, on the Yellow River, and thence the Amnyi Machen range, which I had planned to explore. Accordingly I set out with my party for Choni. We arrived in the village on April 23, 1925, and received a cordial greeting from the Prince, Yang Chi-ching, who rendered me all possible assistance.

Here I made my headquarters for two years (see map, page 576).

I resided in the *yamen*, or official residence, in the lamasery, situated on a terrace about 500 feet above the village and to the west of it. It was a delightful spot, with a tiny courtyard filled with choice peonies, lilacs, and other flowers.

The Choni Prince was exceedingly hospitable throughout my stay. He gave orders to the lamas to aid me in taking photographs, and not only admitted me to all religious ceremonies, but gave me the place of honor. Thus I was able to obtain whatever material I desired.

THE PRINCE'S FAMILY HAS RULED SINCE 1404

Unlike the Chinese, the Tibetans rarely keep records or dates of events; consequently, little is known of the early history of Choni. The name itself is of Tibetan origin and is, perhaps, derived from the two words *cho* (pine trees) and *nyi* (two)—two pine trees.

The Choni Prince related to me how his ancestors came into possession of the territory.* He represents the twenty-second generation, but is not of direct descent. His ancestors, a Tibetan official family, left their own country and made their way across Szechwan and the Min Shan range, in Kansu, to the Tao River, in 1404, conquering and pacifying the tribes and villages on the way. Upon informing the Imperial Court in Peking of their conquest of the territory for the Chinese Empire, they were made hereditary chiefs of Choni and the subjugated tribal lands. At the same time the Emperor, Yung Lo, gave them a seal and the Chinese name Yang.

* See "Experiences of a Lone Geographer," by Joseph F. Rock, in the National Geographic Magazine for September, 1925. In an early number of The Geographic, Doctor Rock will tell of his experiences in exploring the Amnyi Machen, one of whose peaks soars to within 1,000 feet of the height of Mount Everest.

*A letter from Doctor Rock dated March 22, 1928, announces that the Choni Prince has been shorn of his hereditary title and military rank, and that his domain has been confiscated by Fengyu Shiang, the Red General. Thus the present article may be the closing chapter in the history of the ancient principate. The Prince is now merely commissioner of the barbarians and is subject to removal at the will of the Lanchow Government.

REVOLUTION HAS SHORN THE CHONI PRINCE OF HIS TITLE AND DOMAIN

Prince Yang Chi-ching rendered the author all possible assistance. Through his courtesy the lamas allowed the butter images to be photographed (see text, page 614, and Color Plates I, V, IX, XIII, XV, and XVI). Since Doctor Rock's departure from Choni, the Prince has been removed from his high office and is now merely a commissioner of barbarians (see footnote, page 569).

TSEMOLING, THE BOY GOD OF CHONI, IS OF LOWLY PARENTAGE

The Dalai Lama declared this 4-year-old son of a poor farmer the incarnation of the Tibetan king, who died a short time before Doctor Rock's arrival in Choni. The author and his party lived in the building erected by the monks as an official residence for the youthful Tsemoling, and the boy, at orders from the Choni Prince, occupied temporary quarters in another house.

PRISONERS IN CHONI ARE CHAINED IN PAIRS

The lot of the offender against the peace of the Choni Prince is unenviable. These ragged unfortunates are Tebbus, who live on the southern slopes of the Min Shan (see map, page 576, and text, page 606).

GIRLS AND WOMEN CARRY WATER TO CHONI

It is a third of a mile from the Tao River to the village, and over this distance the women toil with heavy buckets. This girl uses the Chinese method, with two buckets on a shoulder yoke (see text, page 572).

THE GREAT BUDDHA OF LABRANG IS ALSO YOUTHFUL

Like Choni and Guya (see illustrations, pages 570 and 575), Labrang has recently installed a boy god. This young Living Buddha was photographed at Angkur Gomba, a monastery five days' journey to the north of Choni (see text, page 569).

larger yamen in the village, he is represented in the lamasery by a priest-official. The latter has charge of the library (see text, page 581).

TIBETAN CHONI UNCHANGED BY SIX CENTURIES

Choni is situated in the southwestern part of Kansu Province (see map, page 576). Though capital of the Prince's domain, it is merely a village of 400 families, approximately 2,000 inhabitants. The natives are of Tibetan origin; in fact, there are few real Chinese in Choni. The village is by far the best situated spot in Kansu Province, and the Prince's territory, which I traversed from north to south and east to west, is the choicest bit of land. Nowhere else in Kansu are there such forests, and the scenery is unsurpassed.

The village has probably changed but little during the six centuries of its existence. The Tao River, which flows a third of a mile below the south gate, furnishes the water for the town and the lamasery. Women carry the water in wooden buckets to the town, and the poorer monks convey it the additional 500 feet to the lamasery (see illustration, page 571).

Little of this water is used for cleansing purposes. The monks, therefore, reek of rancid butter and grease, and their skin is black from the accumulated filth of years. Even the lama officials do not bathe, although their faces appear washed. Their priestly garments of red Lhasa cloth are unwashable; and since few of them have

The ancestors of the Choni Prince intermarried with the female offspring of Ching Wang, or King Ching, who ruled the territory of the Ala Shan, in Mongolia, north of Kansu.

Under the rule of succession, if a prince has two sons, the elder succeeds him, and the second becomes grand lama in the monastery; but if there is only one son, he takes both positions concurrently. Prince Yang Chi-ching is both temporal ruler and grand lama. The yamen of the lamasery, part of which we occupied, is the official residence of the grand lama; but since the Choni Prince lives in his

Photograph from Joseph F. Rock

WINTER BARES THE GNARLED OLD POPLARS

The author is enjoying a breath of fresh air in a grove of venerable trees on the banks of the Tao River northwest of Choni.

CHONI LAMASERY HAS WITHSTOOD THE EARTHQUAKES OF CENTURIES

In the temple at the right is the huge clay Buddha (see illustration, page 580). The structure to the left is the main chanting hall. Within the lamasery are 10 chanting halls and 172 other buildings, some of them more than 600 years old. Kansu Province is subject to earthquakes, and the remarkable state of repair of the ancient walls bears testimony to the skill of the builders (see text, page 576).

SOUTHWEST KANSU IS A LAND OF RIVERS AND MOUNTAINS

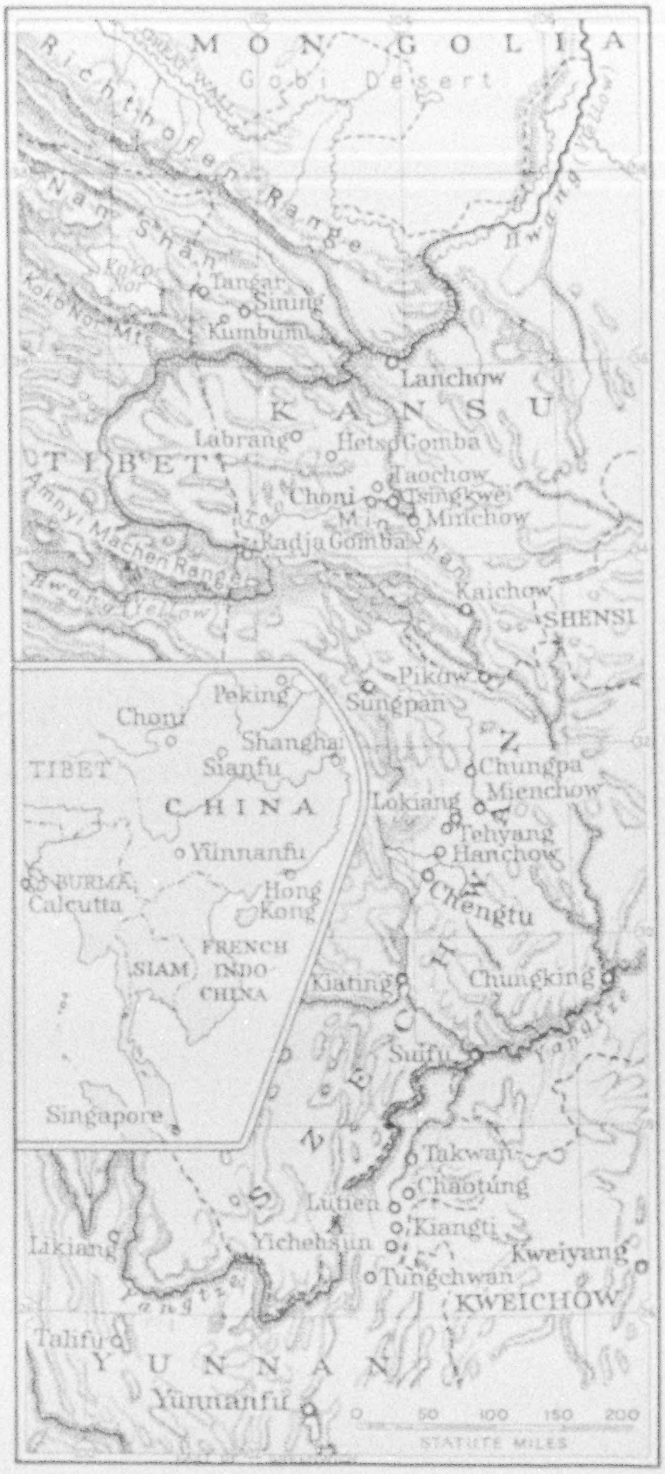
Tsingkwei lies southeast of Choni (see map, page 576). A fair idea of the character of much of the Kansu territory can be obtained from this vista, which unfolds before one looking downstream toward the village. Bordering the river are freshly planted fields. Though this region is pastoral, rather than agricultural, cereals and some cotton and tobacco are grown in the fertile valleys. Some of the hills are wooded. The elevation of Tsingkwei is about 8,000 feet, practically the same as that of Choni.

THE LIVING BUDDHA OF GUYA IS SIX YEARS OLD

The monastery over which this solemn little fellow rules is a few miles southwest of Choni (see, also, illustrations, pages 570 and 572).

GRASSLAND NOMADS COME TO THE BUTTER FESTIVAL

Even in zero weather they keep the right arm and shoulder bare. Their backs, however, are well upholstered.



Drawn by Chas. E. Riddiford

CHONI IS IN A REMOTE CORNER OF NORTHWEST CHINA

The author reached this village near the Tibetan border by an overland journey from Yünnanfu. He established his headquarters in a Buddhist monastery and for two years observed the customs and religious ceremonies of the lamas. In an early number Doctor Rock will describe his journey to the Amnyi Machen, one of the world's loftiest mountain ranges.

more than one garment, the clothing is saturated with odors so strong that it is difficult to expel the scent from a room after even a short visit by a small group of lamas.

It was amusingly incongruous to see these malodorous monks wearing triangular pieces of cloth over their mouths to prevent their breath from defiling the brass images, as they filled the butter lamps and water bowls and arranged them on the altars. Apparently the gods were squeamish about bad breath, but quite unmindful of overpowering body odors.

THE TEMPLE BOASTS ABSTRACT TRANQUILLITY

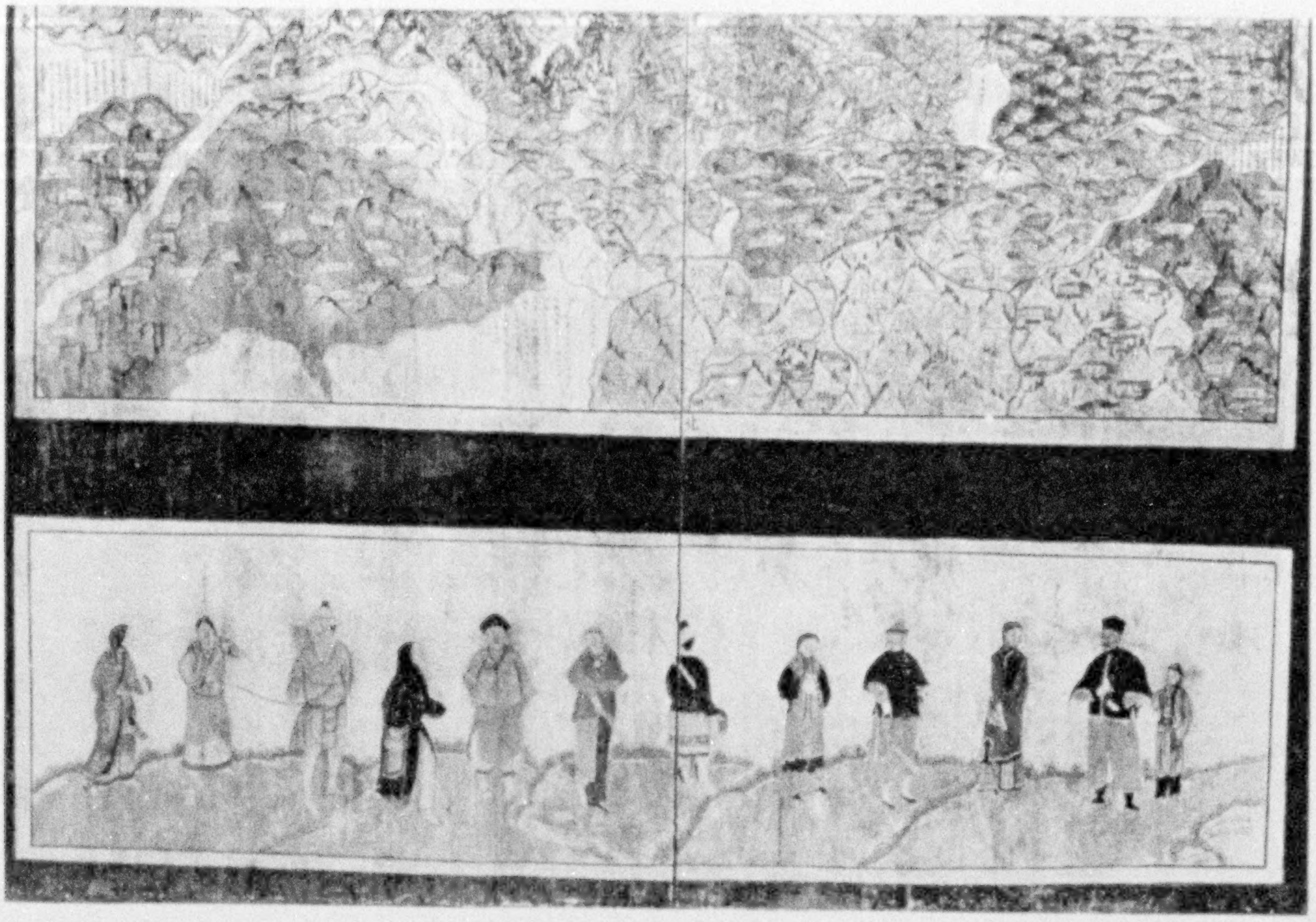
Choni monastery is surrounded by a wall of loess (a peculiar deposit of loam) pierced by a large stone gate looking south. Upon the gate is the inscription: *Chi Ssu Chan Ting Ssu* (Bestowed by Imperial Command Temple of Abstract Tranquillity). A memorial stone of 1736 records that the tablet for the monastery was written by Emperor Kang Hsi himself in 1710 as a favor to Chih Lien, a Choni priest, who paid him a visit. After his return to Choni, Chih Lien is said to have contributed 3,000 taels of silver—a great sum at that time—toward the building of temples and chanting halls in the monastery. Within the walls are 172 buildings, not including 10 large and small chanting halls (see illustration, page 573).

During the reign of Yung Lo the monastery housed 3,800 monks, but now only 700 reside there. The senior member of the monastery is elected *lama onze* (presiding priest) for a period of three years. Besides this official there are one senior and one junior overseer and 17 *mila*, corresponding to minor judges. The patriarch of the monastery at the time of my visit was Chin Chio Yang, a member of the Prince's family.

Of the 10 chanting halls in Choni two are fairly large. The one most frequently used faces a square in which the lama dances are performed and the Butter Festival is celebrated. This hall is flanked by three other buildings.

The largest chanting hall, a structure probably 200 years old, is immediately back of the first. It can accommodate about 400 monks. The roof is supported by 80 large pillars of wood lacquered red. The main idol in this hall is *Wutaishan*, or *Chambyang*, the God of Learning (the Chinese *Wen Shen*, God of Literature).

On festive days this hall is beautifully decorated with brocades. From the ceiling are suspended long ceremonial umbrellas, and the pillars are sheathed in



A PICTORIAL CHART AND A PANEL FROM CHONI'S ROYAL RESIDENCE

A map of his domain and pictures of tribal types adorn the walls of the Prince's modest palace.

magnificent hand-woven carpets, the gift of the Mongol king of the Ala Shan. The hall is opened only on special occasions, such as the Feast of Lights, when the monks assemble at night to chant the classics.

The oldest of Choni's chanting halls was erected nearly 500 years ago. It is rarely used, except as a storeroom for butter images. It contains a huge gilded image, a sitting statue of Tsongkapa, the founder of the Yellow Sect, with his two disciples (see, also, text, page 604).

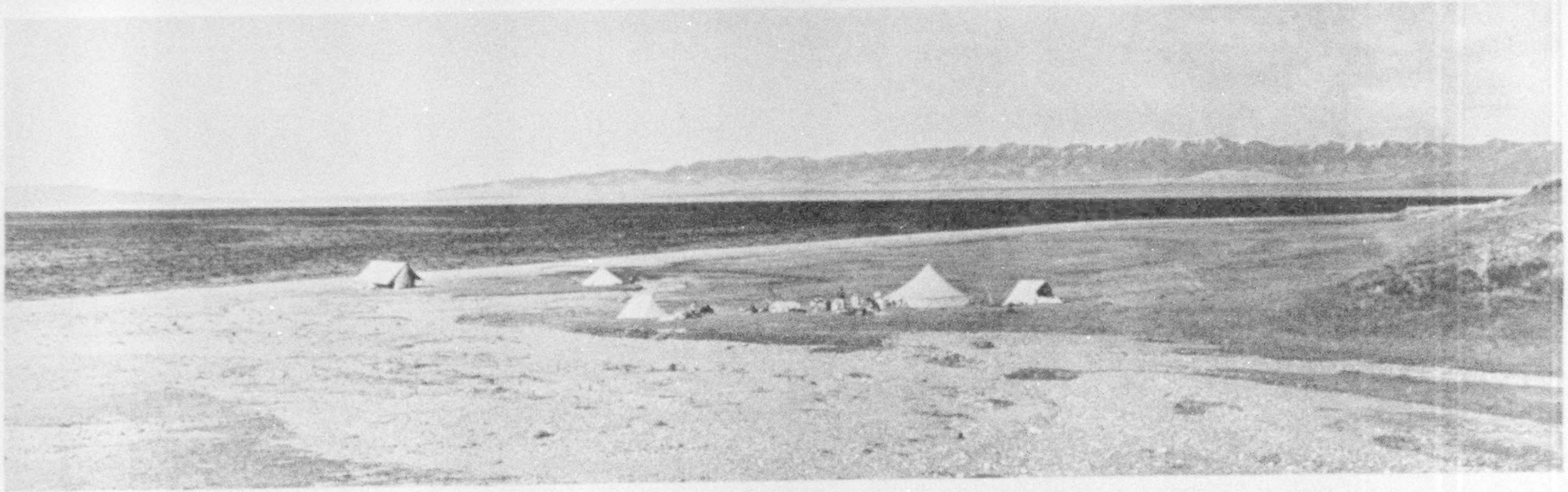
THE TURN OF A WHEEL OFFERS YEARS OF PRAYER

A building to the left of the main chanting hall contains a large octagonal prayer cylinder of wood, with doors. Within it is a complete set of the Kandjur and Tandjur, the chief Tibetan classics, the former comprising 108 volumes, the latter—the commentary—209 volumes (see, also, illustration, page 582). To the cylinder are attached slender bars with carved figures, by means of which the wheel can be set in motion. With one revolution the devotee has said the contents of the 317 volumes—indeed a quick way of saying prayers.

Below the main hall and flanking the courtyard on the left is the Temple for the Recompense of Kindness. It is said to have been built, 1679-1681, by two brothers, Ju-sung and Ngan-wang, at the command of their dying mother, who exhorted them not to spend their money in riotous living, but in building temples to insure her blessings in the next world. A three-storied building, with drum and bell-tower, it houses a gilded clay Buddha 40 feet high that extends from floor to ceiling. The idol is probably 250 years old (see illustration, page 580).

An interesting small structure is the Prison of the Earth God, which stands in the middle of the garden assigned to us. It is a blockhouse 10 feet high, with a roof, but no windows. The iniquitous God of Earth in the form of an ugly idol is buried beneath it to prevent his committing such mischief as scattering disease or inflicting other calamities on man and beast.

The chanting halls are built of stone, with walls several feet thick and façades



AFTER PITCHING CAMP ON THE SOUTHERN SHORE OF THE KOKO NOR, THE AUTHOR'S PARTY TOOK A CHILLY SWIM

The elevation of this lake is nearly two miles. Here the plunge in water having a temperature of 58° F. was invigorating. Doctor Rock made an excursion to this part of the Kansu country in the summer after his arrival at Choni.

THE YAK IS THE KANSU NATIVE'S BEST FRIEND

Serving a double purpose as beast of burden and dairy cow, this hardy animal plays an important part in the life of the Tibetan nomad. This caravan is traversing the Koko Nor grasslands 11,200 feet above sea level. Without the help of these sturdy beasts it is almost impossible to cross the high passes (see text, page 606).

KOKO NOR WOOL GOES TO MARKET IN PRIMITIVE FASHION: WITHIN THE WALLS OF THE CITY OF TANGAR

Each camel carries a pack of 300 Chinese catties (about 400 pounds). The merchant who buys the wool must take great care to deduct from the weight the burden of dirt, stones, and other foreign material that by some mysterious means becomes mixed with it en route. It is a case of "let the buyer beware."

MORE THAN 40 FEET HIGH IS THE GREAT CLAY BUDDHA

In the Temple for the Recompense of Kindness rests an image that extends from floor to ceiling of the three-storied building (see text, page 577). The figure is said to be about 250 years old. Another huge clay idol representing Tsongkapa, the founder of the Yellow Sect, is housed in the oldest chanting hall, a building that was erected more than 500 years ago (see text, page 577).

of painted and carved timber. Inserted in the walls for decorative effect are squares of rhododendron brush called *suru*, into which are fastened lamaistic emblems of bronze or brass.

CHONI LAMAS PRINTED SACRED BOOKS NOW IN THE LIBRARY OF CONGRESS

Choni lamasery has printing blocks of both the Kandjur and the Tandjur (see text, page 577). A number of other lamaseries, such as Derge and Radja, have blocks of the Kandjur, but rarely of the Tandjur. In fact, Choni is said to be the only monastery outside Lhasa possessing the Tandjur blocks, and the claim is made that the books printed here are without mistakes, the best edition known.

The printing blocks of both classics are more than 500 years old. The number of pages in the classics I could not ascertain, but it took 16 years to carve the blocks of the Tandjur alone. The Choni Prince said he suggested movable type, but the lamas refused to entertain the idea.

The priest-official in charge of the classics informed me that it takes 45 monks three months to print the Kandjur and nearly six months to print the Tandjur. This does not include the time consumed in preparing the paper for the printers (see illustration, page 602).

The paper used is bought at Kungchang, in eastern Kansu, 11 days distant from Choni. It is very thin, and the monks paste eight sheets together to make one for the book. When 317 volumes are printed, one can surmise the time and labor spent. The monks who print the classics receive each 250 cash a day, the equivalent of five cents, plus rations of barley flour, tea, and some yak butter.

The Library of Congress in Washington, D.C., through Dr. Walter T. Swingle, commissioned me to buy a complete set of the two classics from the Choni lamasery. These were packed in 92 boxes and sent by caravan seven days to Lanchow; thence by parcel post to Shanghai. Unfortunately, they arrived at Sianfu just before the gates of that city closed. There they remained through the whole siege of the town. They did reach Shanghai, however, after being more than a year on the way (see illustrations, pages 603 and 604).

Great ceremonies, conducted regularly each year in Choni lamasery, are few. There is a dance on the 13th of the first moon; the Butter Festival is celebrated on the 15th, and another dance is performed on the 16th. The Sunning of the Buddha takes place in the spring, on the 30th day of the second moon. On the sixth day of the sixth moon falls the Old Dance, *Chamngyon-wa*, to my mind the most interesting of all the ceremonies.

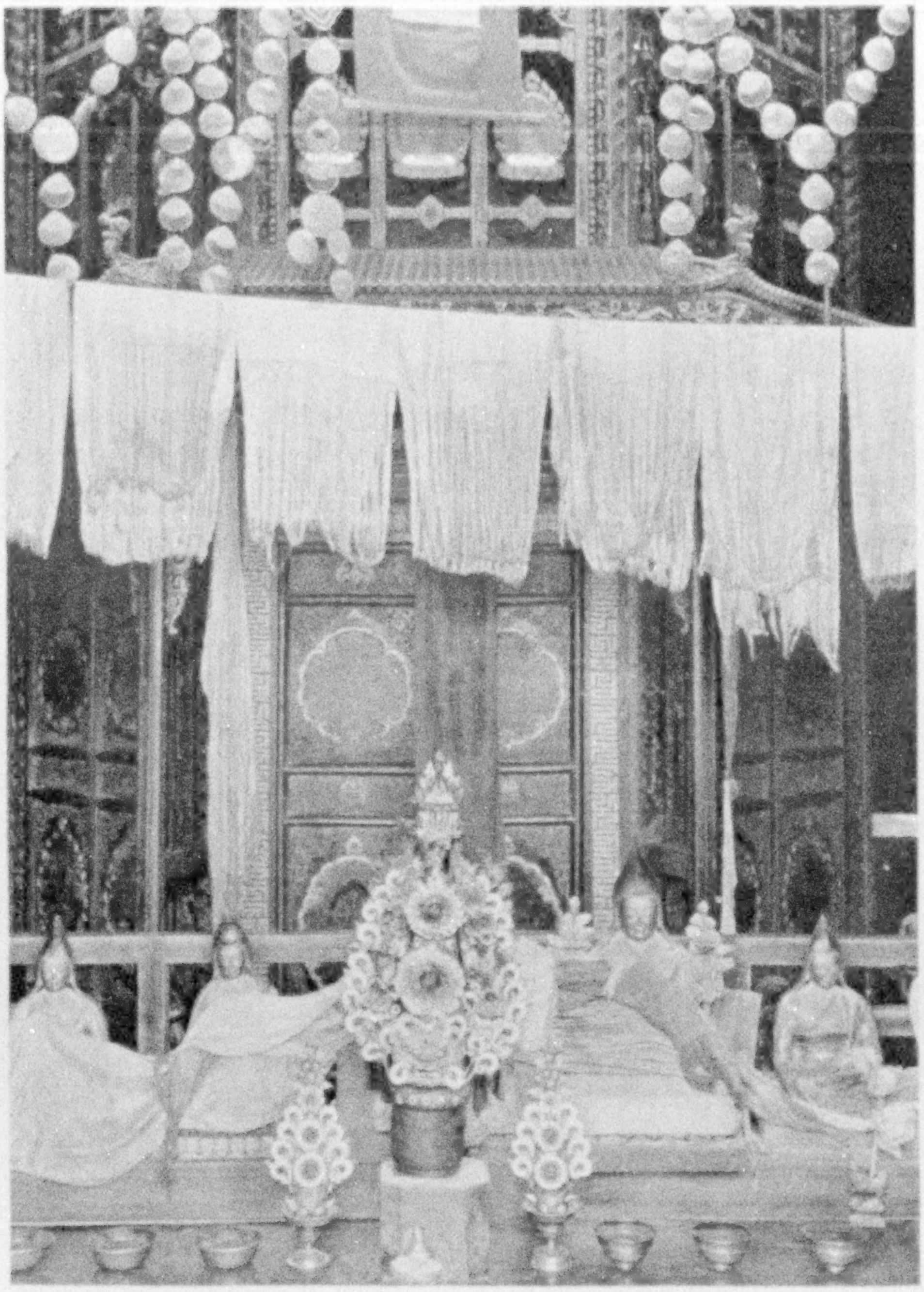
There is a dance on the 24th of the 10th moon, followed on the 25th by the Feast of Lights, which commemorates the ascension of Tsongkapa, with yet another dance on the 26th day. Every third year, on the 16th of the first moon, the Choni lamas celebrate the installation of a new presiding priest by a peculiar festival known as Le Chon Chaker (see text, page 615).

The time between ceremonies is occupied by the monks in chanting on certain days, but otherwise mainly in loafing. In case of illness of wealthy believers, the lamas are asked to chant the classics, believed to have a salubrious effect. The charge for opening the largest chanting hall is 300 taels of silver ($200). To expedite the reading of these voluminous works, 500 assembled lamas divide the pages and each reads a portion of the text—a rather disconnected method, but apparently it matters little if the beginning, middle, and end are read at the same time. It is thus possible to read the 108 volumes of the Kandjur in a day.

THE LAMAS RISE EARLY TO SUN THE BUDDHA

The first ceremony I witnessed at Choni was the Sunning of the Buddha. At daybreak, when all was hushed and peaceful, a lama climbed to the roof of a chanting hall a little below our quarters and struck a deep, sonorous note from a great gong. When the sound had died away he struck again and let the last deep reverberation fade into the stillness of the dawn. After an interval of a few minutes he pounded the gong rapidly to awake the slumbering monks.

The monks quickly completed their sketchy toilet, of which the washing of hands or face is not a part, and rushed to the chanting hall to perform their morning prayers. Soon the deep bass voices of several hundred chanting lamas and an occasional ringing of bells and blowing of trumpets reached my abode, mingling



BY A TURN OF THIS TWO-STORIED PRAYER WHEEL ONE SAYS 317 VOLUMES OF PRAYERS

Within this octagonal structure are complete sets of the Kandjur and Tandjur, the principal Tibetan classics (see pages 602 and 604). The whole wheel can be rotated by means of carved bars. In the foreground are brass images before which are placed butter lamps, water bowls, and ornaments of yak butter. The prayer wheel is of wood beautifully carved and gilded (see text, page 577).

After the prayers in the chanting hall had continued for hours, the worshipers were fed with butter, tea, and *tsamba* (barley flour). Each monk carried in his voluminous garment his own wooden tea bowl, his only utensil. Fingers served as forks.

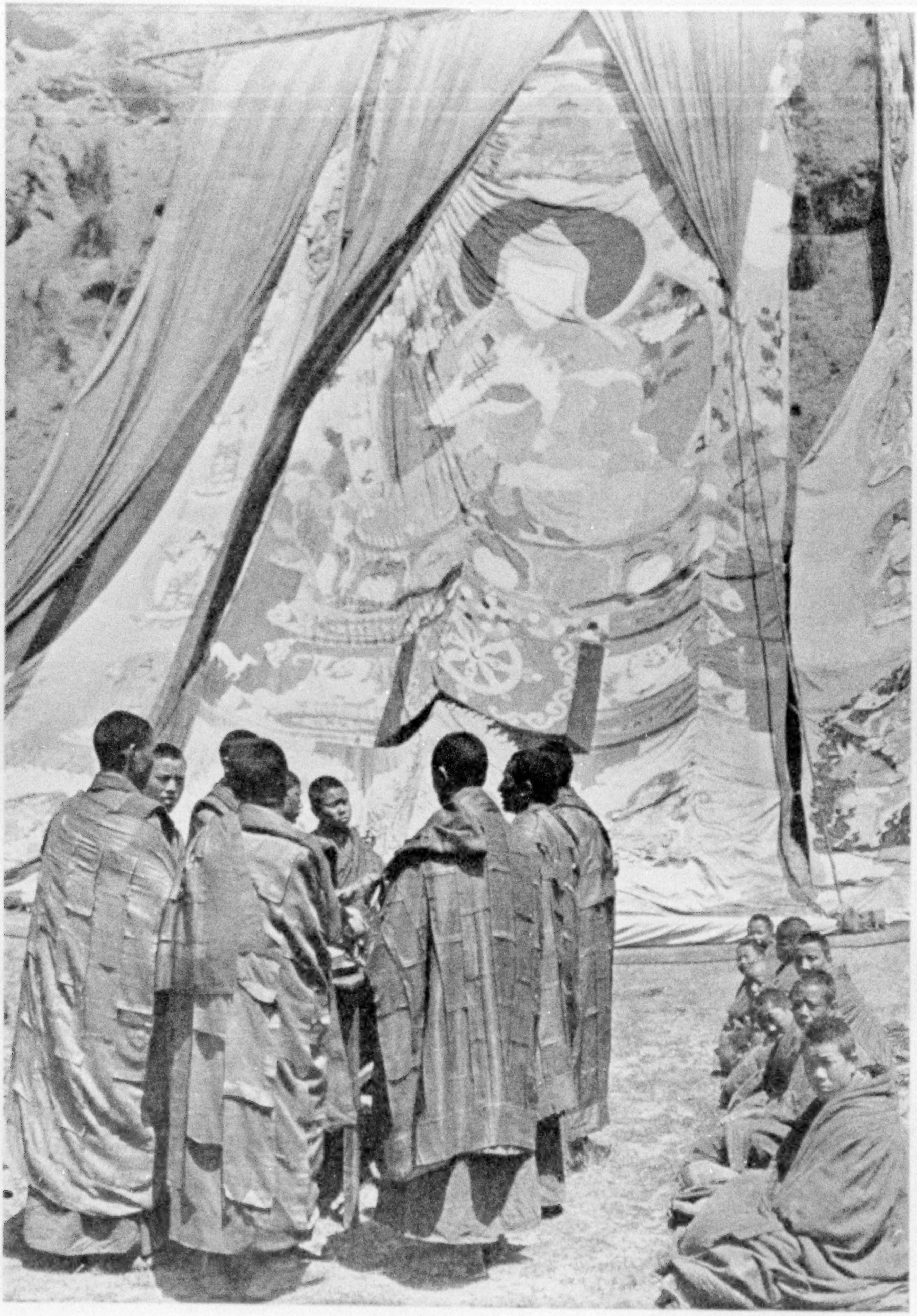
At 10 o'clock the priests and monks filed out of the cold, dark chanting hall, slipped on their boots, arranged their red woolen garments, covered their shaven heads with peculiar helmet-shaped hats decorated with yellow ruffles on the crest, and marched outside the monastery and down to a small terrace of loess, where over a steep bluff was suspended a work of art representing Tünba Sha Chia To Pu, the Chinese Shi Chia Fu (called Djaka in India). This tapestry is more than 50 feet long and is at least 200 years old. The work is of heavy silk appliqué; the colors are soft and exquisite (see illustration, page 583).

pleasantly with the song of birds on the roof of the Prison of the Earth God in my garden (see text, page 577).

During prayers the platform in front of the chanting hall was strewn with boots, for the monks go to their devotions barefoot. Most of the boots were of cheap woolen cloth, with felt or yak hide soles. Trousers and socks are unknown among the lamas. Even Living Buddhas thrust their bare feet into knee-length boots, which they tie with string below the knee to keep them from slipping.

Before the tapestry was arranged a table with offerings. Extremely youthful monks sat cross-legged on strips of carpet spread at the sides. A group of lamas surrounded a sort of throne, on which, beneath a large yellow umbrella, sat a dignified high lama dressed in yellow (see illustration, page 610). All chanted in unison with six lamas clad in yellow silks, who stood around the table that held the offerings. Two others accompanied the chanting with cymbals.

In the afternoon the ceremony shifted to the lamasery compound. An idol was



ONCE EACH YEAR THE LAMAS SUN THE BUDDHA

Before a great tapestry of silk appliqué bearing the likeness of Tümba Sha Chia To Pu, the lamas chant in the ceremony of the Sunning of the Buddha. The tapestry is more than 50 feet long and at least 200 years old. The colors are soft and exquisitely blended. The tapestry hangs over a cliff below the lamasery (see text, page 582).

placed in a wheel chair in front of the main chanting hall, a lama carrying behind it a multicolored umbrella as a sign of rank. He was followed by a Living Buddha dressed in yellow, with yellow miter. After chanting liturgies for a short time, they wheeled the image outside the lamasery gate. There all the monks remained and chanted.

THE OLD DANCE IS ELABORATE

The sixth day of the sixth moon was a great day at our lamasery. The sun shone gloriously; no better day could have been selected for the performance of Chamngyon-wa, the Old Dance. In the forenoon I went down into the chanting hall and found the lamas dusting and laying out the masks and corresponding garments. The vestments, dating from the Manchu dynasty, when they were worn by officials, are richly embroidered. The masks, though made of papier-mâché, weigh about 10 pounds each and are remarkable works of art.

When the equipment was ready, the lamas put on the vestments over their red garments. Before putting on the masks they donned padded woolen caps which covered their foreheads, their necks, and the sides of their faces. The caps were secured by scarfs passed under the chin and tied on top of the head. Over these caps they adjusted the masks in such a way as to enable them to look through the mouth or nose. Fully clad for the dance, a lama was very heavily clothed for midsummer weather.

At noon the dance began. A crowd had gathered and surrounded the courtyard. The walls and roofs of the neighboring buildings were packed with people representing various Tibetan tribes, as well as some Kansu Chinese. In the gallery of the main temple seats had been prepared for the Choni Prince and his guests. A crowd of lamas lined the platform in front of the vestibule of the chanting hall, while boy lamas packed the gallery on the building opposite. Instead of going up into the gallery prepared for us, the Choni Prince and I selected a spot facing the main hall near the orchestra.

This orchestra was quaint. The principal instruments were large circular drums, held erect by staffs fastened to the rims. Sickle-shaped rods were used as drumsticks. Other instruments were 10- to 15-foot trumpets of bronze (see illustration, page 613), small trumpets made in the form of dolphins, brass cymbals, and flutes.

There was no stage; the courtyard served as a place for the pantomime. No words were spoken, except for occasional outcries or ejaculations.

With a flourish of trumpet, gong, cymbal, and drum, the large doors of the chanting hall opened and four boys, from seven to ten years of age, made their appearance in the square. Clad in striped silk shirts and red jackets, they represented demons called Tegong. The masks they wore resembled Hindu faces with prominent noses, and were surmounted by conical hats with red, fuzzy knobs on top. These boys demon-danced in pairs, each lifting one foot, jumping into the air, and turning with a sweeping gesture of the hand.

Following these dances came a hellish band of eight living skeletons, representing departed spirits (see Color Plates VII and VIII). They were dressed in tight-fitting white garments on which were sewn strips of brilliant red cloth cut to resemble the bones of the skeleton. Skirts of imitation tiger skin, sleeves ending in gloves with fingers tipped with huge claws, and ivory-white skulls with red eye sockets completed the outfits. These dancers, being young men, were very agile. They cavorted furiously over the whole courtyard, keeping time with the beat of the orchestra.

The skeleton dancers were followed by two 8-year-old boys, similarly costumed. These represented inhabitants of Darjeeling, in India. Each carried a scepter, which he placed on the ground, then performed a few childish gyrations and retired.

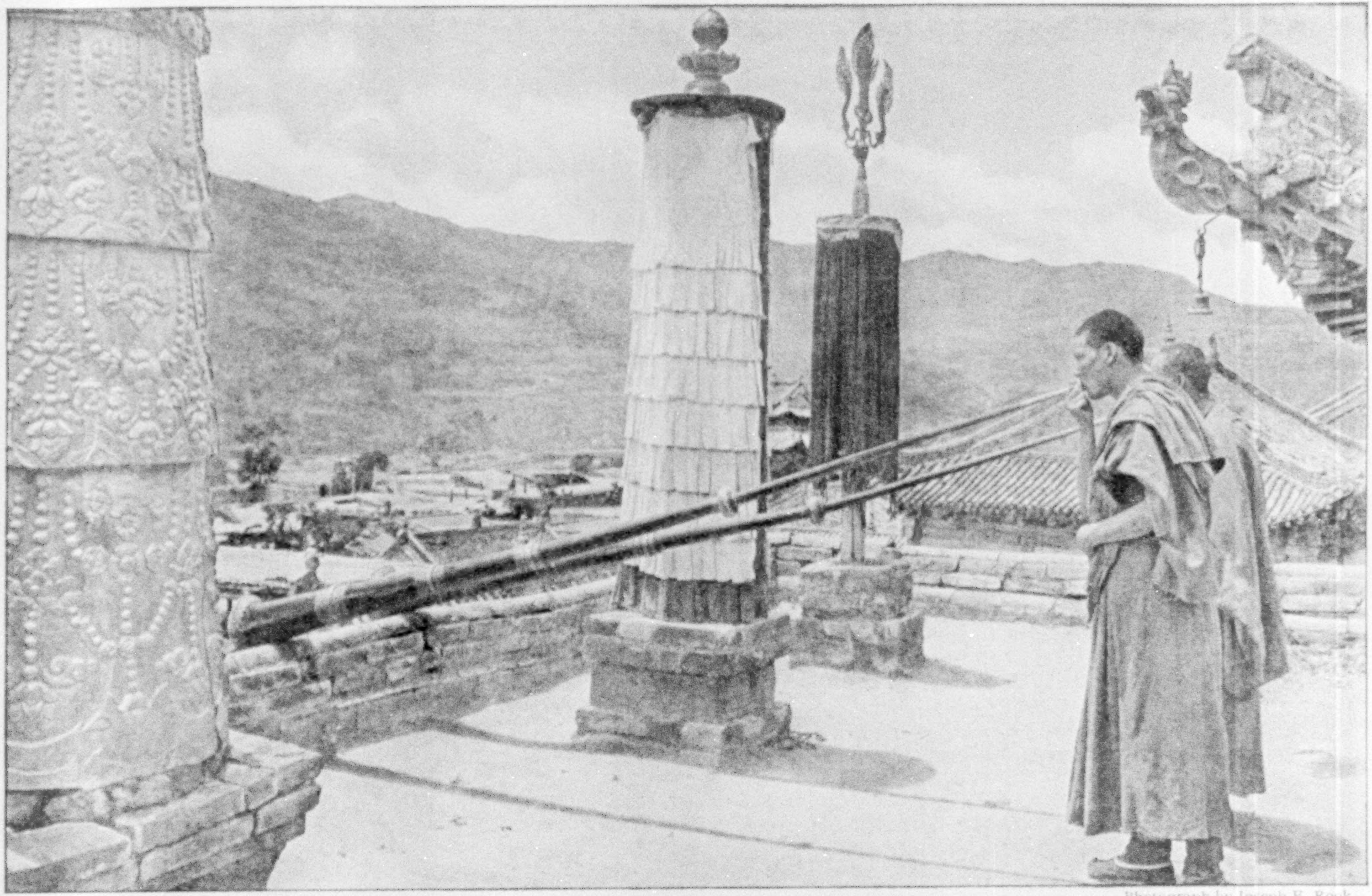
THERE IS COMEDY EVEN IN RELIGIOUS PLAYS

Next came the comedy of the program, the part to which the spectators looked forward with the greatest glee, no matter how often they had seen it. The first figures to appear were an old man and a toothless old woman, poorly dressed, each wielding a stick. They took up posts, one on each side of the courtyard, while from the vestibule appeared a comical stout

© National Geographic Society Photograph by Joseph F. Rock

A BUTTER DEMON RAMPS AMID THE FLAMES OF HELL

The fierce Gombo is the most venerated deity in Tibet (see also Color Plate XI). Here the butter sculptor depicts him in the pit of fire, treading underfoot the elephant-headed god Ganesha, his son. The panel was one of the most intricately wrought of the entire exhibit at the Choni Butter Festival.



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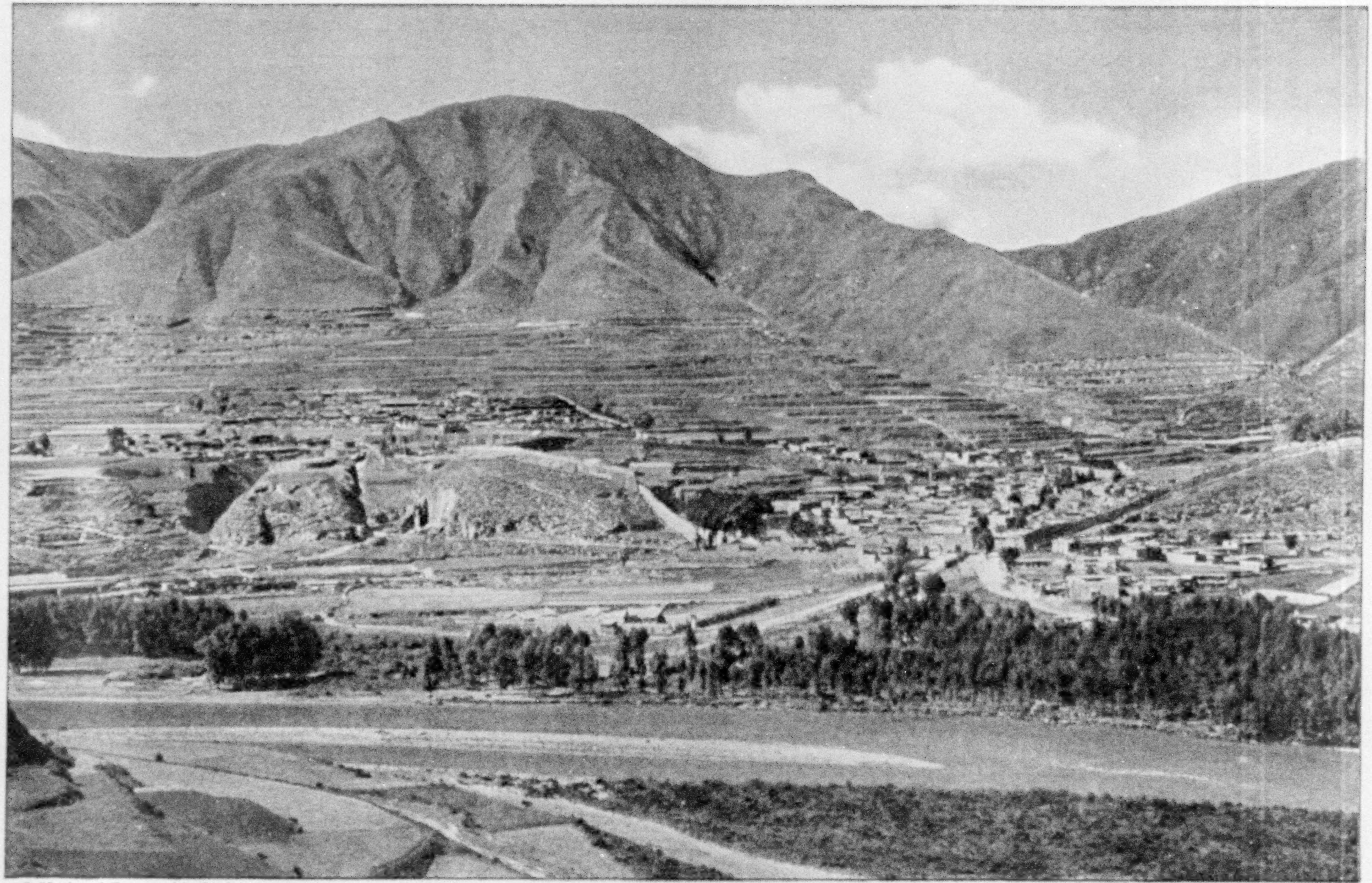
Photograph by Joseph F. Rock

TIBETAN PIPES CALL TO THE DANCE

Monks on the roof of a temple summon the austere Choni lamas to prepare for the ancient pantomime Cham-ngyon-wa. From the 15 foot trumpets are issuing weird, long-drawn notes that can be heard far away in the mountains. These same horns have resounded to the breath of thousands of trumpeters whose very memory is lost in antiquity (see also text, page 584).



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Photograph by Joseph F. Rock

CHONI LOOKS TO-DAY AS IT LOOKED 600 YEARS AGO

Overshadowed by towering hills of loess, the capital of the Choni Prince's domain has slept unchanged for centuries on the bank of the poplar-bordered Tao River a mile and a half above sea level (see text, page 572). The monastery is on the terraced slopes to the left of the town. This view is from the south side of the river.

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Photograph by Joseph F. Rock

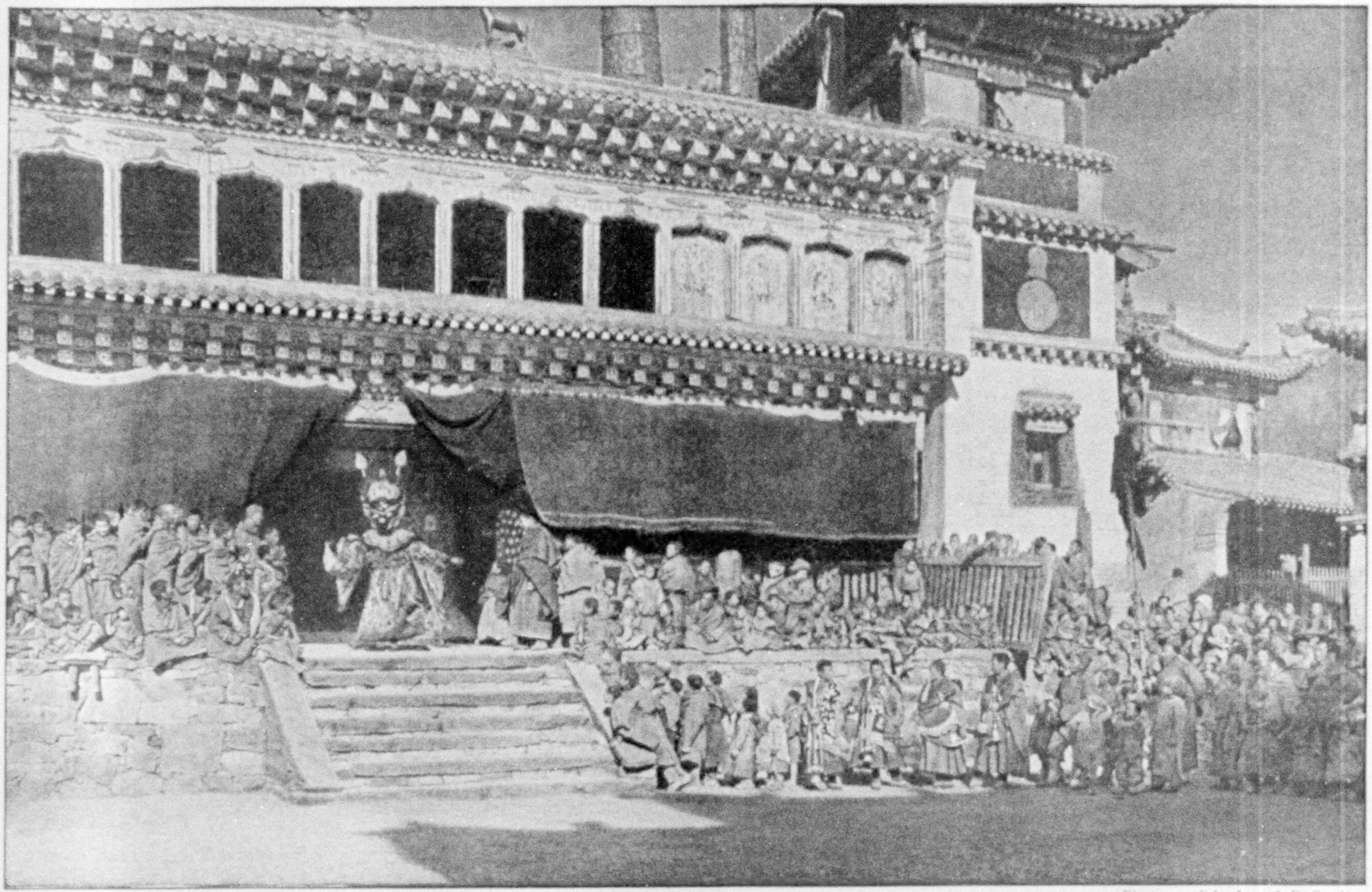
THE CHIEF DANCER IMPERSONATES THE KING OF HELL

With the scepter of death in his right hand, the fearsome Yama, the God of the Dead, appears on the steps of the chanting hall and instills fear into the hearts of his Tibetan audience. Later he is joined in the dance by his retinue of demons, the *Bowa* (see text, page 602).

© National Geographic Society — Photograph by Joseph F. Rock

BUTTER LENDS ITSELF TO DELICATE MODELING

This exquisite figure is Donker, one of the twenty-one manifestations of Drolma, the Goddess of Mercy. It was the top panel of one of the five pyramids at the Choni Butter Festival. The butter sculptures are displayed for a single night only, then destroyed.



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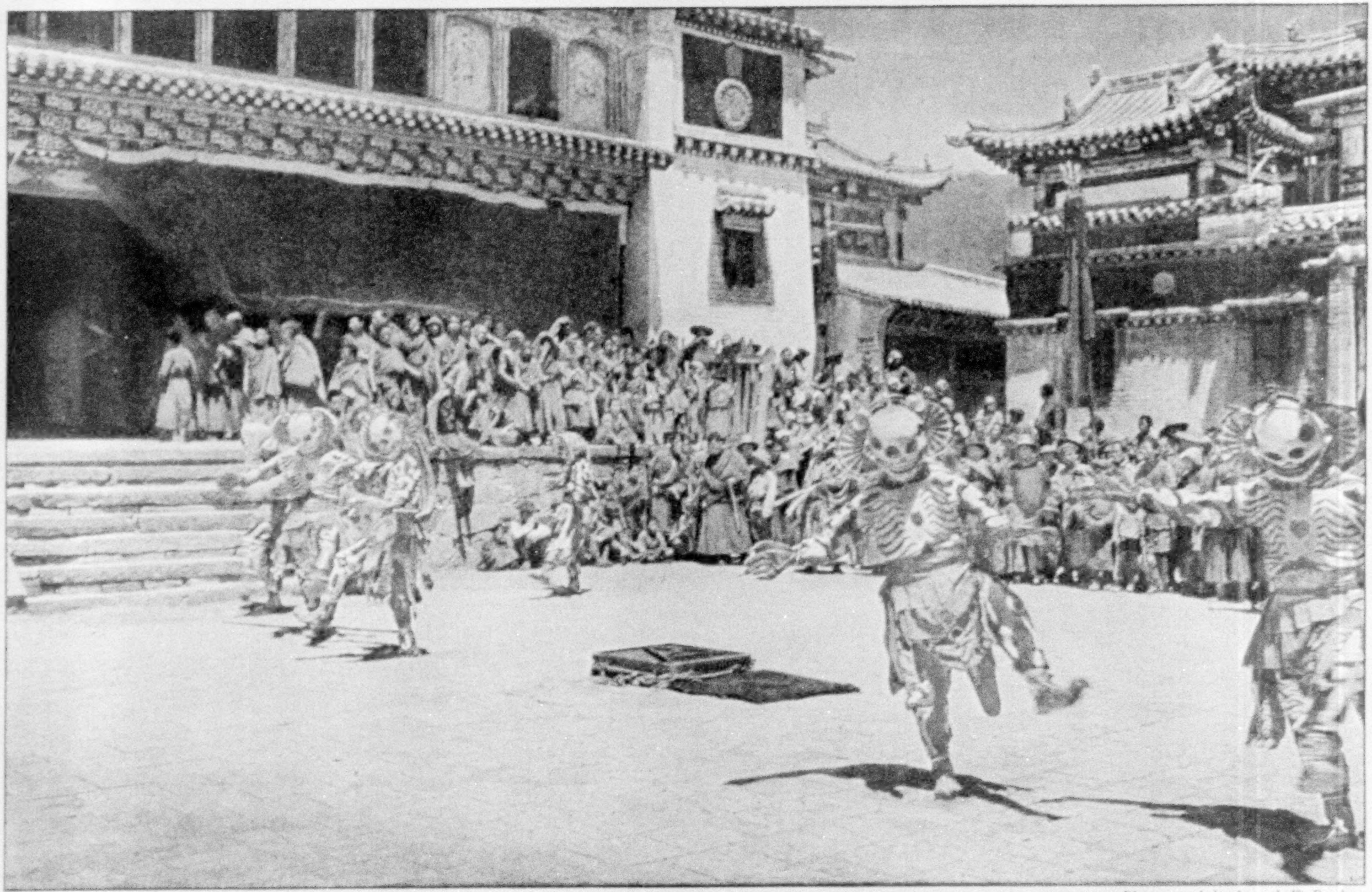
Photograph by Joseph F. Rock

THE GOD OF DEATH BEGINS HIS DANCE

At the top of the steps of the chanting hall, Yama, a weird figure in gorgeous array (see also Color Plate IV), gyrates slowly to the measured beat of the drums and cymbals before descending to the courtyard. The eager crowd is kept back with the greatest difficulty (see text, page 601).



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Photograph by Joseph F. Rock

LIVING SKELETONS DO A LIVELY BALLET

One of the most agile dances of the Cham-ngyon-wa is that by eight young men representing departed spirits, who aid in punishing the wicked (see text, page 584). These devil dances are no part of the Buddhist religion, but outgrowths of shamanism and sorcery.

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Photograph by Joseph F. Rock

THE FIRST CHONI SKELETON DANCER TO POSE FOR HIS PICTURE

With huge cadaver masks, imitation tiger-skin skirts, and enormous claws, this performer and his seven similarly garbed companions strike terror to the hearts of the spectators in the Old Dance (see text, page 584). They are assistants of Showa the Deer, messenger of Yama.

© National Geographic Society Photograph by Joseph F. Rock

BUTTER ART EXCELS IN THE SHENREZIG PANEL

This masterpiece of butter sculpture is a monk's conception of the patron saint of Lhasa, the deity to whom alone the Tibetan prayer *Om Mani Padme Hum* is addressed. The panel was one of the most beautiful of those displayed at the Butter Festival (see text, page 606).

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Photograph by Joseph F. Rock

THE PROTECTING DEMONS CIRCLE THE COURTYARD

Balden Lhamo, at the extreme left, is leading the Bowa in a fiendish whirl around Yama, the King of Hell (see Color Plates IV and XI). From her mouth dangles the miniature corpse of her son, whom legend says she devoured. In a bag at her side she carries all sorts of diseases, which, when angry, she releases to harass man and beast. The Dalai Lama of Lhasa pronounced Queen Victoria of England the reincarnation of this demon! (See text, page 602.)

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STRANGE BEINGS PROTECT AND PROPAGATE RELIGION

There are 21 of these Bowa who dance with Yama, ruler of the nether world, in the oldest of the Choni mystery plays (see text, page 602). At the extreme right is Gombo, chief of the demon band, one of the manifestations of the Indian god Siva (see also Color Plate I). Next to him stands his wife Gombo Nyon. Masur Lhamo is at the left of the picture, and his wife Lhamo Nyon stands between him and Gombo Nyon.

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THE CHIEF DANCER POSES AS NAMSE

The richest costume possessed by the lamas is that of the God of Wealth, who appears in the last act of the Cham-ngyon-wa attended by eight disciples (see text, page 603). The butter image of this god (see Color Plate XVI) bears little resemblance to the dancer's impersonation. Namse is always recognizable, however, by his gorgeous apparel.

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A BUTTER SCULPTOR THUS PORTRAYS DRAPUKOLO

Nearly all Tibetan deities have been adopted from the Hindu pantheon, clothed in Buddhist garb, and given Tibetan names. This god, like Namse, is a god of wealth. There is no dearth of gods for the butter artists to model. The subjects used for the Butter Festival are changed from year to year for the sake of variety (see text, page 606).

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Photograph by Joseph F. Rock

THE BLACK HAT LEADER MAKES HIS ENTRANCE

The Cham-s'homa, or New Dance, originated 200 years later than the ancient pantomime Cham-ngyon-wa. The performers wear beautiful costumes and ornate headgear, but no masks. The dance is celebrated the day before and the day after the Festival of Tsongkapa (see page 605).

© National Geographic Society Photograph by Joseph F. Rock

LAMA SCULPTORS USE PALETTES OF TWENTY COLORS

A temple in the Choni lamasery is dedicated to Dzon Ker, one of the numerous deities of wealth in the Tibetan family of gods. The artistry displayed at the Choni Butter Festival is remarkable, but even larger numbers of panels are used in other Tibetan monasteries (see text, page 606).

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THE GOD OF WEALTH, DONE IN BUTTER, LOSES NO SPLENDOR

Namse is one of the four kings who rule the first four stories of the cosmic mountain in the Paradise of Love. He is the last to appear in the mystery play Cham-ngyon-wa (see text, page 584, also Color Plate XII). This resplendent panel representing him was displayed at the Choni Butter Festival.

figure wearing a large, smiling mask. This figure, designated as Nantain, pretended to be so corpulent that he could hardly walk. As he descended the steps into the courtyard he was taken in charge by the old man and old woman, who swayed to and fro as they supported him to the center, where a carpet had been spread. On this carpet the three knelt, apparently with great effort, and the guards forced the stout one to worship (see illustration, page 607).

They pushed him in every direction and made him kotow till he had the greatest difficulty in getting up. The kotowing was performed three times by the sprawling buffoon. Then the guards removed his necklace and placed it before him. A monk brought in a tray of barley, ostensibly for him to offer; but instead the guards filled their hands with the grain and bombarded him with it, throwing it into his face to the great delight of the onlookers. To complete the farce, the guards picked up the necklace and invested the buffoon with it by banging it on his head. All this evoked shouts of laughter from the spectators.

Accompanying the buffoon were four small attendants, who wore costumes similar to his and carried incense burners and cymbals. At the conclusion of the mummery, all staggered like intoxicated persons up the stairs and disappeared into the chanting hall.

POLITICO-RELIGIOUS PROPAGANDA LIVES ON

Nantain, it may be explained, represents a big Chinese monk who came from China to Tibet in the eighth century to enjoy religious disputation with the Tibetan lamas. The latter by their superior wit (the Tibetans' own claim) outmaneuvered the Chinese monk and made of him an object of ridicule. Hence the poking of fun by the attendants in the dance. The whole performance was introduced undoubtedly as a piece of political propaganda to emphasize the superiority of the lamas over the Chinese, whom they hate most cordially.

After the burlesque the old man and old woman took their original places. Now appeared once more the eight living skeletons, this time bearing by means of scarfs a triangular wooden tray. They danced about with this tray and finally deposited it in the center of the courtyard. On the tray under a covering of blue muslin reposed the image of a full-breasted female demon made of red-colored barley-flour dough. The eight hosts of hell separated, and four danced on each side of the court to the quick and jerky tempo of the drums and cymbals.

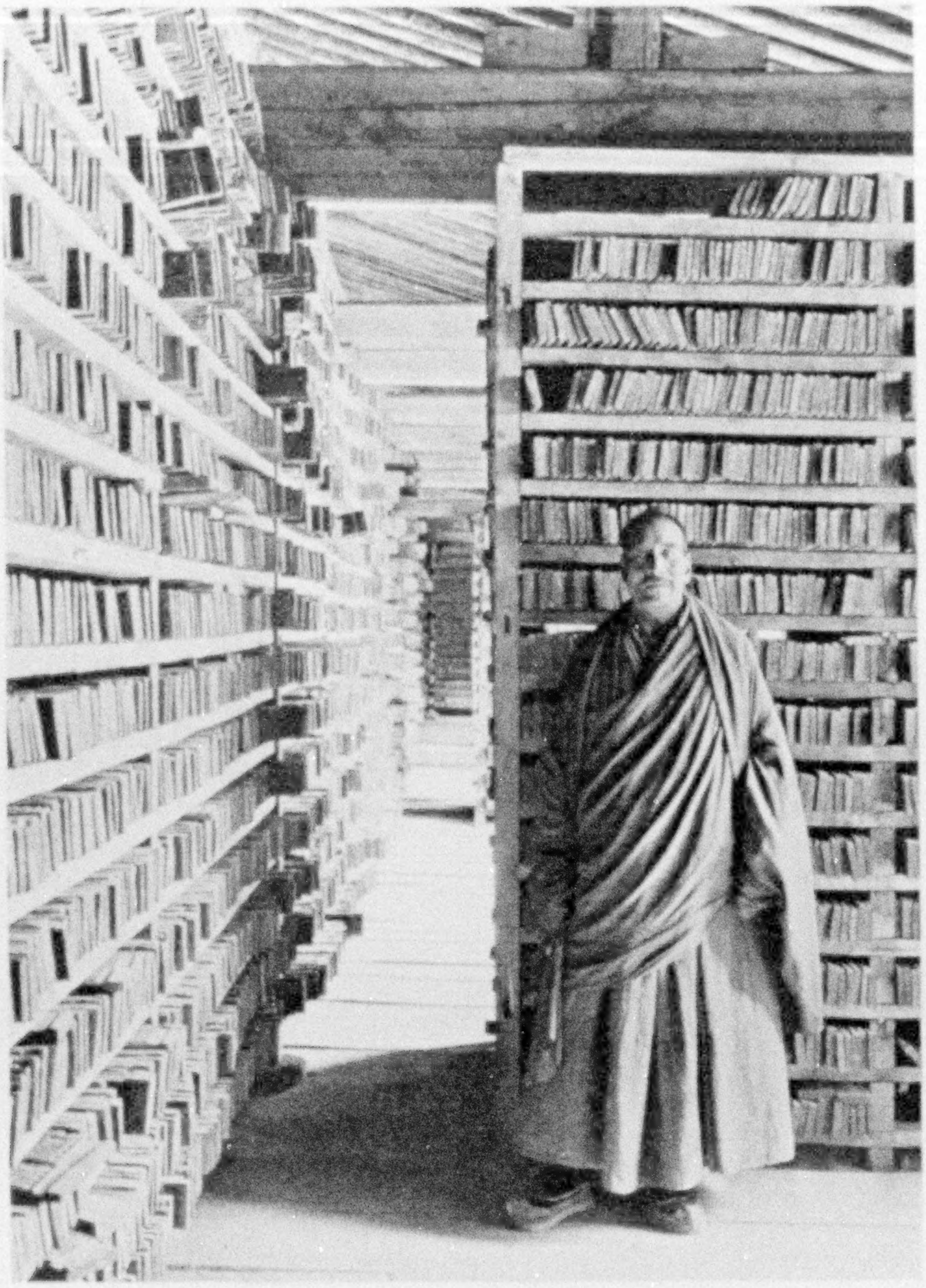
After a few moments they dashed for the chanting hall and disappeared, to be followed by Showa, the Deer, messenger of Yama, God of the Dead. Showa, who was rather poorly dressed, wore the mask of a deer with large antlers, the mouth wide agape. He carried a knife in his right hand and a skull cup in his left. Around his waist was a string of jingling bells (see illustration, page 605).

He performed a really remarkable dance, the most agile of all, gyrating madly over the court to the accompaniment of the quick, jerky beats of the orchestra. Now whirling wildly, now squatting and dancing in a sitting posture like a Russian dancer, he approached the demon on the tray and finally squatted on a carpet in front of it. His body swaying to the rhythm of the music, he brandished a knife and buried it in the image, cutting pieces from the figure, and at last decapitating it. The fragments he scattered to the four winds.

Remnants of the stabbed demon were picked up with sticks by the old man and old woman and thrown into the crowd. The Deer continued the frenzied dance, while the tray was being taken out by the two guards.

THE GOD OF DEATH LEADS THE DANCE

The orchestra now changed tempo. Long blasts from the great trumpets, mingled with the monotone of the smaller wind instruments and the clashing of cymbals, announced Yama, grim ruler of the nether world. On the top step leading from the vestibule of the chanting hall into the court he appeared, arrayed in a gorgeous garment magnificently embroidered with gold dragons rising from the sea (see Color Plates IV and VI). A rich gold brocade collar hung over his shoulders. His mask, a most terrifying affair, represented the head of a bull with flaming headdress and golden horns, the face a brilliant blue with scarlet nose, the



PRINTING BLOCKS OF THE CLASSICS FILL FOUR BUILDINGS

The official librarian of Choni lamasery stands beside his shelves in one of the two long rooms housing the Tandjur blocks. The blocks of the Kandjur are kept in two similar buildings. These blocks are more than 500 years old. Impressions are carved on both sides, and a skillful lama requires four days to cut one block. It took 16 years to carve the blocks of the Tandjur alone. The woods used are walnut and a lighter species at present unidentifiable. The Kandjur contains 108 volumes; its commentary, the Tandjur, is in 209 volumes. Both are printed by hand on paper prepared by pasting together eight sheets to make one leaf (see, also, text, page 581).

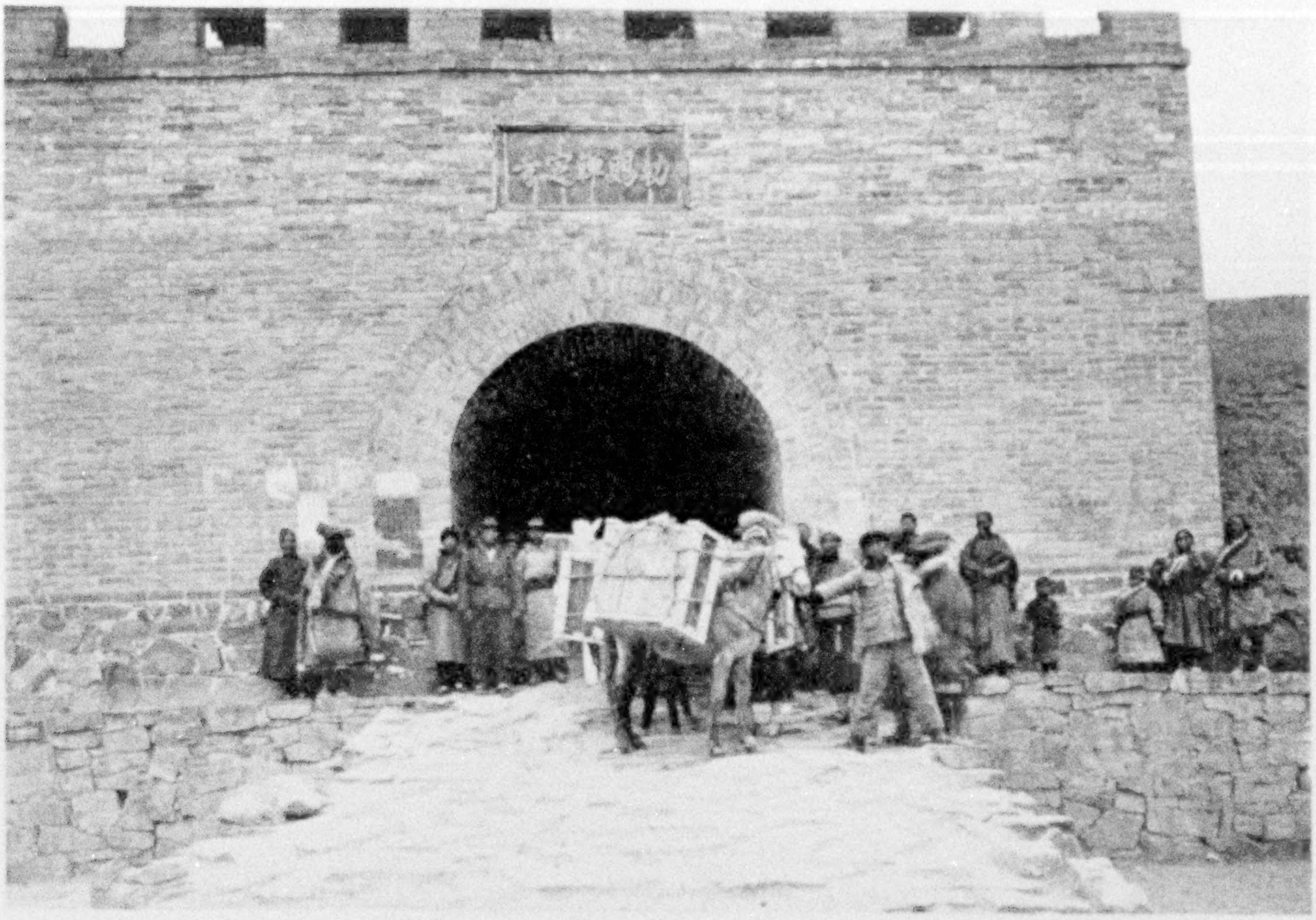
forehead adorned with five human skulls. In his right hand he held the scepter of death, crowned with a skull, and in his left a skull cup with red fringe.

He danced slowly at the top of the stairs, turning gracefully, lifting first one foot, then the other, now sitting on the threshold of the chanting hall, now rising. Finally, swaying scepter and skull cup, he descended with measured step into the courtyard, while the orchestra thundered forth infernal music. In his wake came three attendants wearing similar masks, one yellow, one red, and one white, and carrying swords and skull cups (see illustration, page 608). They danced slowly around the courtyard, while silence reigned among the spectators. After a brief interval 17 other dancers joined them, and Yama led the whole group in their performance.

These 21 fierce demons are known as Bowa, chief among whom are Gombo, or Makahala, the six-handed blue demon; and Balden Lhamo, the fierce goddess and spouse of Siva (see Color Plate X). From the mouth of Balden Lhamo protruded the corpse of her son, whom she is said to have devoured. Legend relates that she was formerly the spouse of Yama and had a son by him. This child, it was prophesied, would turn enemy and persecute Buddhism. She, therefore, slew him, flayed him, and saddled her mule with his skin. Riding this mule, she escaped from Yama's realm.

QUEEN VICTORIA PAID A QUEER COMPLIMENT

Because of his resentment over British encroachments in Tibet the Dalai Lama of Lhasa many years ago pronounced Queen Victoria of England the reincarnation of this demon goddess. All diseases are traced to Lhamo, who carries them in a bag by her side. This bag she opens oc-



THE KANDJUR AND TANDJUR START FOR WASHINGTON

At the request of officials of the Library of Congress, the author purchased a complete set of the Tibetan classics from the Choni lamas. The 317 volumes were packed in 92 cases and sent by pack train to Sianfu (see text, page 581). Here they were held up during a siege. They were a year on the way to Shanghai. The loaded pack animals are emerging from the old gate of the Choni lamasery.

casionally and scatters epidemics in every direction. When appeased, she withdraws the diseases. She is the patroness of Lhasa, where on the first day of the first moon her festival is celebrated.

Other demons and demonesses were represented, but it was difficult to obtain information about them.* The circle was closed by two peculiarly dressed dancers representing Amnyi Šoda and Amnyi Toba (see illustration, page 609), the latter probably identified with an Indian magician who was a vigorous opponent of Islam.

After a short intermission, the performer who had taken the part of Yama appeared again—this time in the guise of Namse, the God of Wealth. He was gorgeously arrayed in an embroidered garment covered with gold and silver disks (see Color Plate XII). His mask was of a deep pink and his crown of gold was supported by two dragons. In his left hand he held a golden fan and in his right a scepter. He was accompanied by eight disciples, who wore masks similar to his, but of different colors. Fastened into the backs of their girdles were varicolored flags with tasseled staffs. Namse led them as they danced in unison, swords and skull cups in hand.

* Doctor Rock speaks Chinese, but the Choni lamas know only a little of this language. Conversation was thus somewhat difficult.

DANCERS POSE FOR CAMERA

This dance concluded the Cham-ngyonwa. The entire ceremony had occupied about three hours. Save for a few moments before the dance, when he had made his appearance on a rug spread in the center of the courtyard and there kotowed three times with folded hands before the temple, the Choni Prince had remained with me. Throughout the dance he had ordered every performer to appear before my camera to be photographed. I learned later that the dancers were not keen about having their pictures taken in public, but they obeyed the commands of their ruler.

Photograph by Edwin L. Wisherd

A COMPLETE SET OF THE CHONI CLASSICS IS NOW IN THE LIBRARY OF CONGRESS

Dr. Arthur W. Hummel, Chief of the Chinese Division, is holding a volume of the Tandjur (see text, page 581). The wider, thicker books belong to the Kandjur. The two classics are mixed on the shelves. Each volume is hand-bound between pine boards, and the covers are tied together with wide cotton bands.

At any other monastery it would have been an utter impossibility for me to obtain such pictures.

On the 25th day of the 10th moon was celebrated the Feast of Lights. Legend has it that on this day A. D. 1417 Tsongkapa appeared on the stone altar of his monastery, and, after addressing the multitude on the greatness of his church, became transfigured and ascended into heaven. He founded the Yellow, or Reformed, Sect, the established church of Tibet.

The large courtyard in the lamasery yamen was beautifully decorated for the occasion. An awning was stretched across the whole space, and from this hung many colored draperies of silk and wool. Huge tapestries of exquisite appliqué work were hung against the north side of the inclosure. The central silk tapestry, whose soft, pastel colors blended beautifully, represented Tsongkapa.

In the center of the court, fronting him, stood a pagodalike structure made mostly of exquisitely colored yak butter, and in the pagoda sat a god whose yellow face, molded of butter, disclosed the touch of an artist (see illustration, page 611). Other less decorative pyramids, adorned with flowers, rosettes, etc., all of colored butter, were arranged on both sides of the main butter pagoda. Hundreds of butter lamps were burning in long rows, between which had been placed small pyramids of tsamba decorated with plain disks of butter. To this display were added fruits, bowls of barley, and other offerings.

At noon the Choni Prince sent word to me that the lamas had forgathered, and invited me to attend the ceremony. Three lamas sat enthroned on high, carpeted chairs, while the minor brethren squatted on strips of carpet on the floor. Two lamas arrayed in red, plaited cloaks stood on chairs and led the incantations.

After the chanting had continued for more than an hour, the lamas sitting in the rear rose and brought in great buckets

of rice boiled to mush with bits of mutton. This food, a delicacy prepared only once a year, was served to all the monks.

In the evening the worshipers again gathered in the yamen. All the numerous butter lamps had been lighted, and a pine tree made of iron, with 108 lamps in its branches, looked for all the world like a Christmas tree. The lamas sat on the ground and in the half light furnished by the butter lamps continued their incantations until nearly midnight.

Similar ceremonies were performed in the Prince's yamen. Lovely silk applique tapestries were on display. Every one was happy, and all were permitted to enter the yamen to enjoy the festival. Little Choni had done its best to celebrate the transfiguration of Tsongkapa. Long after midnight lamas were still beating their drums and blowing their trumpets from the roofs of the chanting halls, the notes intended not for human ears, but for the edification of the gods.

SHOWA THE DEER IS AN AGILE DANCER

This messenger of Yama, the ruler of the underworld, performs a solo dance that would do credit to the star of a Russian ballet (see text, page 601). His costume, compared with some of the others, is rather shabby.

THE NEW DANCE HONORS ASSASSIN

Cham-s'homa, the New Dance, also called the Black Hat Dance, was performed on the day preceding and the day following the festival of Tsongkapa. It commemorates the slaying of King Langdarma, notorious persecutor of Buddhism, by Pal-dorje, a monk (see page 612).

Langdarma, legend relates, caused the murder of his brother, King Ralpachen, a devout Buddhist, about the year 899. Upon ascending the throne of Tibet, Langdarma began to persecute the lamas, with the intention of uprooting the Buddhist religion. He burned the sacred books, destroyed the temples and lamaseries, and inflicted great indignities upon the lamas.

Pal-dorje assumed the guise of a strolling black hat dancer and obtained permission to dance before the king. In the sleeve of his robe he had concealed a bow and arrow, and at the first opportunity he shot Langdarma. He made his escape on a white horse which had been covered with soot to make it appear black. Into a river he plunged on this horse, and when

he rode out on the other side the soot had washed away, leaving the horse snow-white. He turned his own coat to show the white fleece lining and, thus disguised, eluded his pursuers. The Black Hat Dance presents dramatically the story of his deed.

A PROCESSION PRECEDES THE DANCE

The ceremony of the Black Hat Dance began at 10 o'clock in the morning, when the Living Buddhas, accompanied by priests and monks arrayed in full ceremonial robes, marched in procession to the square in front of the old chanting hall. The orchestra carried 10 large drums, held erect over the heads of the drummers; two 12-foot trumpets, and numerous cymbals, flutes, and small trumpets. Some of the lamas carried chain-swung incense burners. When they arrived in the square, they stood in line before long strips of carpet, reciting prayers and Tibetan scriptures to the accompaniment of the full orchestra, while the lama overseer walked between the ranks to see that they behaved properly.

After the chanting the dance began. It differed little from the other dances, save that the skeletons did not appear. In their stead lamas danced in pairs, each pair dressed alike—one pair with yellow, one with green, and one with red masks. They wore long red strands of imitation hair.

The clown act came next. It could hardly be omitted, for it is ever the delight of the spectators and comes as a relief after all the demons with their hideous masks (see, also, text, page 584).

The silly, bulky monk was followed quickly by the chief dancer, who wore a gorgeous, silk-embroidered garment, but no mask (see Color Plate XIV). On his head was an enormous circular hat with broad rim of bear fur, crowned with a gilded, perforated superstructure which supported a human skull. In his hands he wielded the three-edged dagger and a skull cup. This dancer represented the monk Pal-dorje. He was joined by sixteen other black hat dancers and the masked lamas who had appeared first.

CHONI PREPARES FOR THE BUTTER FESTIVAL

In keeping with invariable custom, the Butter Festival was celebrated on the 15th day of the first moon. Two days earlier a mystic dance similar to those described had been performed.

Choni was crowded with visitors. From far and wide they had come to see the greatest festival of the year. Nomad Tibetans predominated. Tebbus, who live on the southern slopes of the Min Shan, were not so numerous, for the 13,000-foot mountain passes were buried in snow and difficult to cross even with yak. Tao River Tibetans, Choni Tibetans, and those mixtures of Kansu Chinese and Tibetans who live in the northern valleys of the Min Shan helped to swell the throng, from which the monks reaped much harvest in hard cash and gifts of boots, butter, and other useful articles.

For more than a month 10 monks had been working on the butter images. Living Buddhas and affluent patrons of the monastery had contributed more than 1,000 catties—nearly 1,300 pounds—of yak butter, which always soars in price as the time of the festival draws near.

IMAGE-MAKING IS A HARD TASK FOR THE MONKS

The task of making the images is attended with considerable hardship in midwinter, for the shaping of the figures must be done in a cold room, and the artist must dip his fingers in cold water every time he takes a piece of butter to mold. The monks engaged in this work are real artists. Many of them belong to a wandering fraternity, making the rounds of the monasteries in search of employment. The best molders are in great demand, and rivalry for their services develops among lamaseries. Each artist monk is assigned the task of making two or more panels representing deities.

The images are not colored on completion, but the butter itself is mixed with powdered colors before it is molded into gods. The coloring is most exquisite and harmonious, often as many as 20 shades being used. The panels to which the images are attached are made of blackened wood. They are arranged on pyramidal scaffolding in front of the main shrines. The richer the lamasery, the bigger the display; and, though the images at Choni were of beautiful workmanship, the number of panels did not compare with the numbers shown at Labrang and Kumbum monasteries on the Koko Nor border.

NANTAIN AND HIS GUARDS SUPPLY THE COMEDY

By way of poking fun at a traditional Chinese monk who is said to have lost a religious argument with Tibetans, the lamas present a clown act in each of their dances. The fat and fatuous Nantain enters on the arms of an old man and an old woman, who put him through a series of ridiculous antics and finally beat him on the head with his necklace. Four tiny disciples wear masks and costumes similar to Nantain's (see text, page 584).

KUM

THESE BEINGS AID THE LORD OF HELL

In the wake of Yama as he descends from the chanting hall steps in the Old Dance come three attendants clad in costumes similar to that worn by their leader. They circle about the courtyard for a few moments before they are joined by the Bowa band. The figures on the left is Gkarbo. His mask is white. In the center stands the yellow-masked Ssebo, and on the right is Marbo, whose mask is red (see text, page 602).

In the late afternoon the lamas prepared the display. Huge posts, supporting five wooden frames, had been erected in front of the old chanting hall, and to this scaffolding the butter panels were fastened with ropes as the monks brought them out from the side rooms. By the time the panels were in place, it was dark. Hundreds of butter lamps arranged on shelves before the images were now lighted. They shed a brilliant white light, with scarcely a trace of yellow. No word picture can reveal the beauty of these figures so well as the color photographs here reproduced.

Thousands of spectators had gathered. Women with tiny babies, both half naked, braved the cold. Even in zero weather the nomad women keep one shoulder and half of the breast bare, the rest of the body being wrapped in a single sheepskin garment.

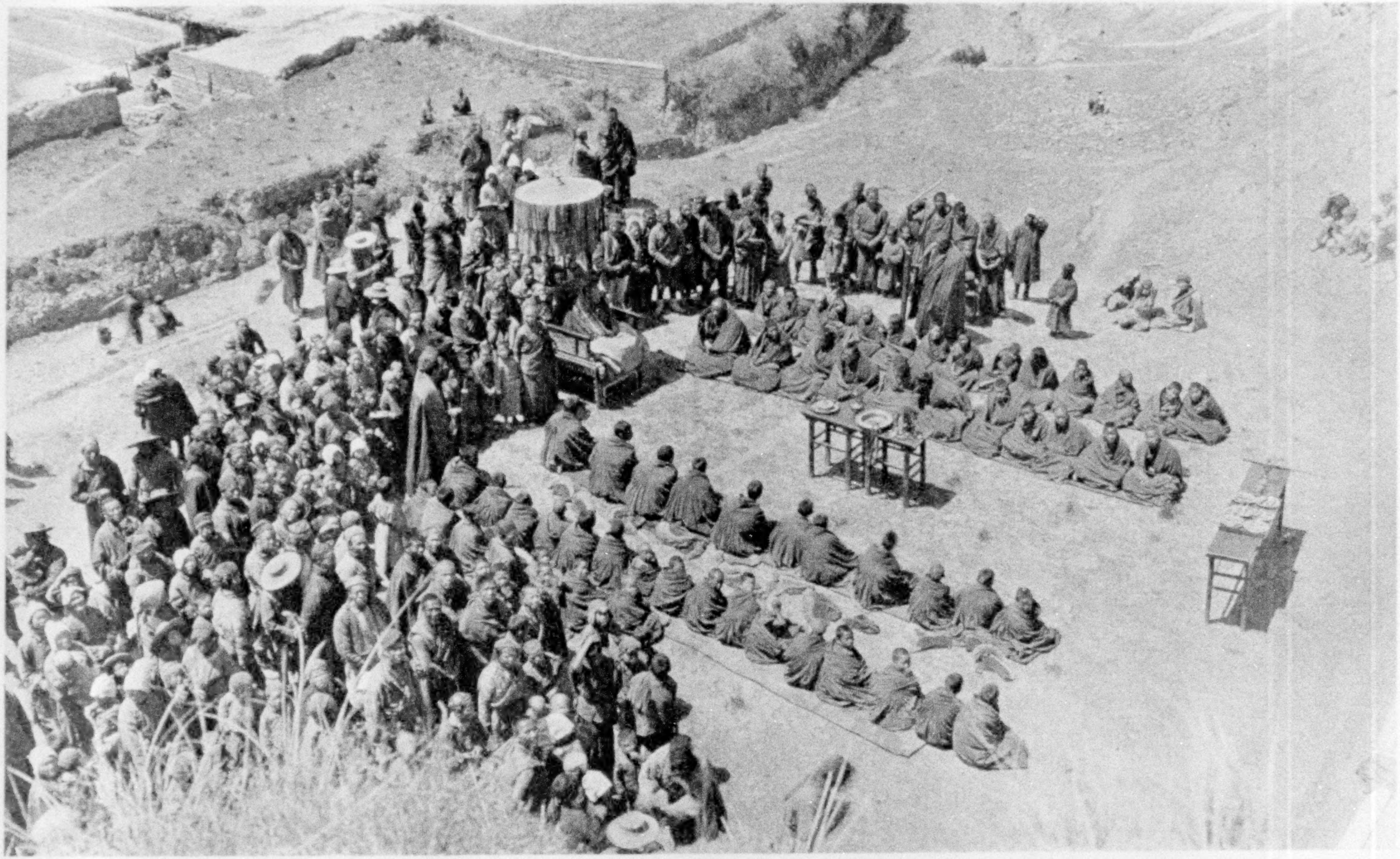
AMNYI SODA AND AMNYI TOBA PROTECT RELIGION

Among the weird band of demons known as the Bowa are these fearsome-looking creatures. They appear in the Old Dance as members of the ballet that swirls around the Spirit of the Dead (see, also, text, page 603).

The square in front of the chanting hall was packed. Lamas armed with long birch whips reached over the squeezing, pushing mob and dealt severe blows on the heads of the onlookers. Those in the first rows would duck to divert the blows from heads to backs, but those behind could not move and had to take the punishment. All were good-natured and suffered the chastisement as a matter of course.

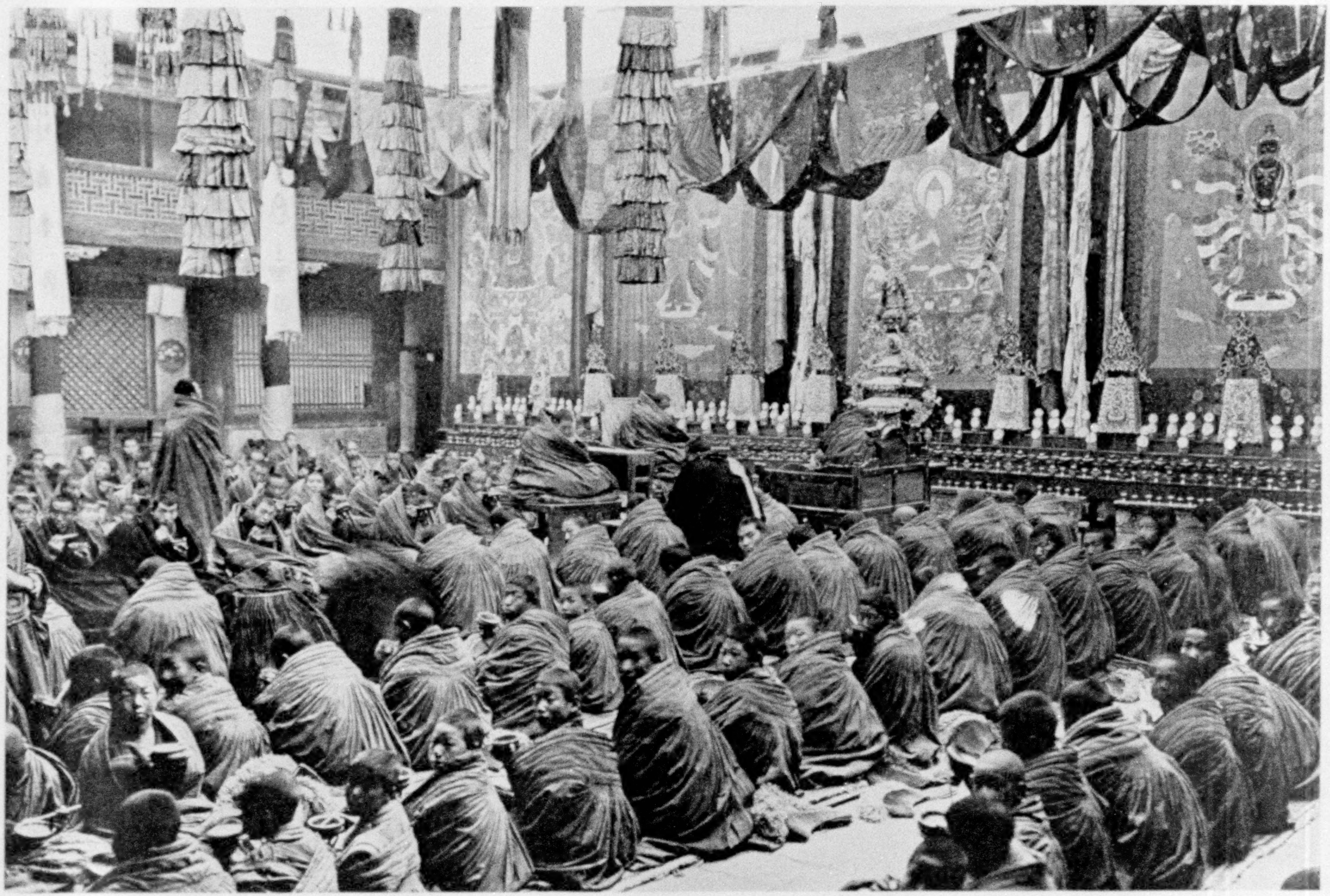
Before the ceremonies began, the Choni Prince, guarded by his soldiers, who made a passageway through the throng for him, went into the courtyard and, prostrating himself three times upon a carpet, kotowed to the butter images.

The chief lamas, one of them carrying Tsemoling, the boy god (see illustration, page 570), dressed in yellow silk, now gathered with the orchestra in the center of the courtyard in front of the images. It was with the greatest difficulty that the space set apart for them was kept clear of that pressing wall of humanity which had filled the rest of the court, although soldiers of the Prince guarded the lamas.



GREAT POMP ATTENDS THE SUNNING OF BUDDHA

On the 30th day of the second moon the Choni lamas gather on a terrace near the monastery to do homage to a great Buddha, whose likeness is displayed on a huge tapestry suspended from a high bluff, just beyond the field of the camera, to the right (see text, page 581, and illustration, page 583). On the throne, shaded by a ceremonial umbrella, sits the abbot. Offerings to the deity are placed on the table to the right.



IN THE DECORATED COURTYARD THE LAMAS HONOR TSONGKAPA

All Choni is in festal array to celebrate the ascension of the founder of the Yellow Sect, who, legend says, was taken up into the Tushita Heaven (Paradise) on this day (see text, page 604). It is a time of rejoicing and feasting and the village is thronged with visitors.

THE BLACK HAT DANCE COMMEMORATES AN ASSASSINATION

The slaying of King Langdarma, notorious persecutor of Buddhism, is dramatized in the Black Hat, or New Dance, by the Shanagh dancers. The chief Shanagh impersonates Pal-dorje, the monk who disguised himself as a black hat dancer, gained admission to the royal chamber, and shot King Langdarma with an arrow (see text, page 605).

The Prince and I went to the building facing the chanting hall, and from the gallery above, which was reserved for us and the Prince's wives and children, we watched the spectacle.

MOTH BALLS SERVE AS DEODORANTS

Below us every available inch of space was occupied, and still newcomers pushed and squeezed their way into the courtyard. From this unwashed humanity, which reeked of rancid butter, a most nauseating stench rose to our gallery. The Prince, much to my amusement, tried to rob the smell of its poisonous quality by sniffing at moth balls. Babies shrieked, while their mothers tried to protect them from the whips. The lamas began their chanting in a deep, sonorous bass. Blasts from enormous trumpets sounded from the roof of the building housing the great clay Buddha (see page 580).

Twenty feet above the mob two wires had been stretched across the courtyard from side to side, and two others reached from the chanting hall to our building. Where these wires crossed, over the exact center of the square, was balanced a miniature temple of wood and colored paper which seemed to float above the crowd. It was illuminated with butter lamps, the heat of which kept rotating the paper prayer wheel inscribed with *Om Mani Padme Hum* (Oh, the Jewel in the Lotus, Amen), the prayer ever mumbled by devout Tibetans.

MARIONETTES DELIGHT TIBET'S DEVOUT THRONG

At a blare of the trumpets two baskets resembling lotus flowers, each supported by a great paper butterfly, were sent along the wires to the suspended temple. In these baskets, controlled by strings in the

CHONI LAMA POLICE WIELD OVERSIZE CLUBS

The guards, who are supposed to keep order during the Butter Festival and the dance which follows, are armed with swords and poplar trunks. Most of the handling of the crowd is accomplished, however, by means of birch whips (see text, pages 609 and 615).

THE ORCHESTRA PRODUCES INFERNAL MUSIC

Drums, cymbals, trumpets, and flutes are the principal instruments used by Choni musicians. These monks are chanting the prelude to the Black Hat Dance (see page 605, and Color Plate XIV).

MONKS FASTEN THE BUTTER PANELS TO WOODEN FRAMES

In late afternoon of the day of the Butter Festival the gorgeously colored idols of yak butter are brought out from the cold storerooms and secured to pyramidal scaffolds by means of small ropes (see text, page 606, and illustration, page 616).

hands of lamas, were queer dolls resembling Buddhist deities. These marionette gods made complete and hurried revolutions, to the amazement of the craning throng. As soon as one set of deities had gone through their exercises, the baskets were pulled back and sent out again with a new group. A dozen times the baskets appeared, each time with different figures.

After this seemingly endless performance, the attention of the crowd was directed to a little red chanting hall of wood at the foot of the central pyramid. The yellow-and-red curtain in front of this miniature temple was drawn aside, and tiny red lamas appeared in a sort of puppet show, dancing in a circle. One, more imposing than the rest, remained in the center of the stage, raising his hand and directing the dancers.

At the same time a regular Punch and Judy show made its appearance on the wooden shelf above the butter lamps. The tiny figures, representing nomads, started a fight, in the midst of which a camel threw its rider. The well-behaved Tibetan mob roared with laughter.

After the Punch and Judy show the lotus baskets were sent out again and the entertainment was over.

LAMAS RELUCTANTLY PERMIT PHOTOGRAPHY

The whole performance was naïve in the extreme, yet it was the ceremony par excellence of Choni. The only variation of it from year to year is the representation of different gods in the butter panels.

The Butter Festival being distinctly a night affair, the images are usually removed before 4 a. m. To take flashlight pictures in the course of the celebration would have been impossible because of the panic it would have created among these simple children of the grasslands. But I was very anxious to photograph the entire display of butter images, so I asked the Prince if it would be possible to have them remain in place until after sunrise.

Thanks to my host, the lamas were directed to leave the images in place until I had exposed 24 plates, the first real pictures of the butter gods.

When one takes into consideration the hostile attitude of the lamas of other monasteries (a rawhide whip was used on a missionary who attended a butter festival at Kumbum), it speaks well for the discipline among the Choni monks that at 10 o'clock on the morning after the festival, long after I had photographed the display, the head lamas came to me and asked whether they could now remove the images. The friendship of the Choni Prince, who sees to it that his orders are obeyed, is really responsible for the photographs illustrating this article.

On account of the greatly disturbed conditions in the rest of China, I had made up my mind to avoid Chinese territory in making my exit from Choni. I decided to leave by way of the Tebbu country and travel in Tibetan territory. Since the passes over the high mountains were blocked with snow, I had to postpone my departure until March, 1927.

This delay enabled me to see another Butter Festival and, what was still more interesting, the festival of Le Chon Chaker, which marks the installing of the lama onze (see text, page 576) and the banishing of demons from Choni. The ceremony takes place only once in three years, on the day after the Butter Festival.

The day of the ceremony was a busy one for the lamas, but not propitious for photography. An all-day snow began at daybreak. About 4 a. m. a lama stationed on the roof of a temple aroused everybody within earshot by beating on a huge gong. For two hours he kept up this din. The ceremony started early in the forenoon and lasted until 4 p. m.

A veritable mob had gathered to witness the incineration of the demons and their works. All the chanting halls, galleries, and roofs were packed with people. The priests responsible for keeping order were armed with swords, thick staffs made of young poplar trunks, and the ubiquitous birch whips. It was amusing to see the good-natured Tibetans duck the blows of the whips aimed at their heads and receive them upon the thick sheepskin upholstery of their backs. Some even invited whipping from the frantic monks (see illustration, page 613).

At each side of the courtyard in front of the old chanting hall four rows of lamas sat on carpets. Those in the front rows were officials. They were well dressed in red woolen garments that resembled Roman togas, with long embroidered streamers hanging down their backs between their shoulders. Behind them sat the poorly clad lesser monks. Twenty monks in the front rows struck cymbals in unison. Ten drums, five on each side, were held erect and beaten with curved rods. The lama onze, who had presided over Choni lamasery for the last three years, walked slowly up and down the aisle and led the chanting in a deep bass (see illustration, page 617). He was well dressed and wore a yellow ceremonial hat. In his hand he carried a short, ornamented rod, at the end of which was a burning incense stick.

After the chanting the lamas drove the mob farther back under a rain of blows, and the dancers entered in pairs, wearing hideous masks of white, deep blue, red, and green. They performed dances similar to those already described.

WARNING IS SERVED ON HERETICS

A doubled-up miniature human figure made of red dough and covered with heavy iron chains was now brought in on a large tray. This image represented a heretic or evildoer. Beside the tray was placed a small red bench supporting a scepter, a sword, a three-edged dagger, a skull cup, a trident, a thunderbolt, a bell, a hatchet, and a sort of mallet.

The chief sorcerer came forward with a cup in one hand and a dagger in the other. In the cup an attendant placed a red ball of tsamba upon which a liquid had been poured. The Black Hat Dancer swayed slowly with this for a few moments, then threw the ball to the ground. The act was repeated several times. Finally, instead of a red ball, a red cone of barley dough bearing on one side a disk of butter was placed in the cup and, like the red balls, thrown down. The dance seemed interminable. At length the dancer knelt before the chained image and, after threatening it with each of the implements from the bench, stabbed it. Thus rendered powerless, it was taken out.

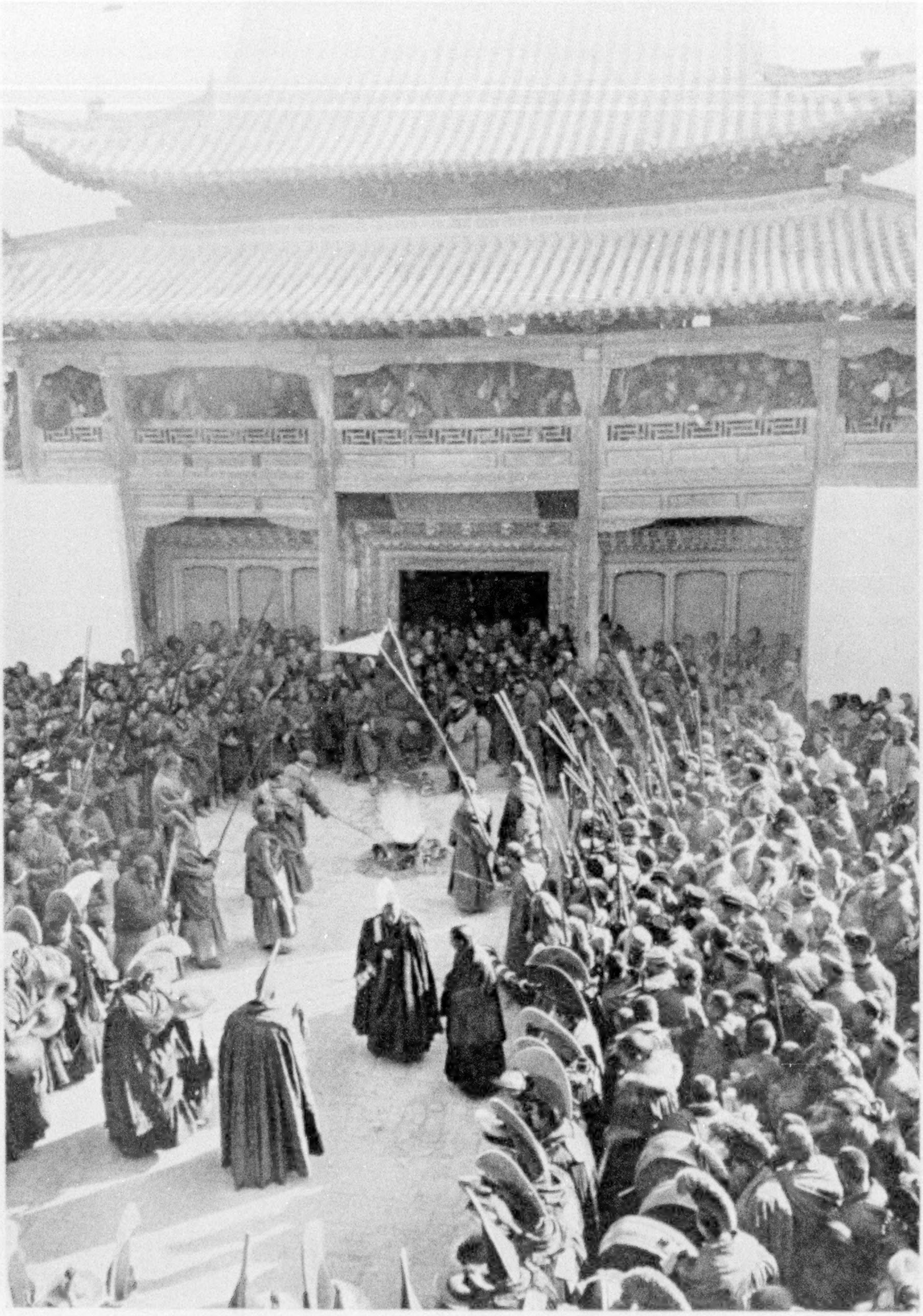
The masked dancers now lined up, ten on each side, and monks brought in long woolen rugs, which were laid down the whole length of the courtyard. After the monks were seated on the rugs the masked dancers took a position in front of the

FIVE GREAT WOODEN FRAMES HOLD THE CHONI BUTTER IMAGES

Artist monks work for more than a month to prepare these beautiful panels, some of which are shown in detail in Color Plates I, V, IX, XIII, XV, and XVI). This photograph was made through the coöperation of the Choni Prince (see page 614) the morning after the Butter Festival.

LAMAS ASSEMBLE TO BANISH DEMONS

The retiring presiding priest paces up and down the central aisle of the courtyard as he leads the chanting preliminary to the ceremony of Le Chon Chaker (see text, page 615). Four rows of lamas sit on strips of carpet at each side of the square. The orchestra is divided, with five drums and ten pairs of cymbals on each side of the cleared space. The important lamas sit in the front rows.



MANY DEMONS FACE DESTRUCTION

By incantations all manner of evil spirits and demons of bad luck have been coerced to enter the triangular paper suspended above the caldron of burning oil. The newly elected *lama onze* (see text, page 576), the figure in the immediate foreground with his back toward the camera, is making ready to cast a bowl of explosives into the flames. He wraps his right hand in silk scarfs for protection and does not approach the caldron until the fire is leaping 20 feet into the air (see text, page 619).

THREE YEARS OF BAD LUCK GOES UP IN SMOKE

For once the crowd falls back voluntarily, as the lama onze casts a bowl of sulphur, salt, and wine at the flaming mouth of the caldron. On the paper held by a forked stick just above the fire (see illustration, page 618) is demon writing. The explosion carries the ill fortune away in smoke. Unfortunately, the priest's first throw missed the pot on this occasion and he had to try again. This ceremony is a part of Le Chon Chaker festival (see text, page 615).

chanting hall. While the monks chanted and prayed, sand and a few large bricks were brought in and a fireplace was built. A large copper kettle was placed on the improvised stove. Into this kettle pure vegetable oil was poured from a great wooden bucket. Then a fire was started under the pot.

At the foot of the chanting hall steps sat a row of lamas, among them the new lama onze, elected to preside in the lamasery for the next three years. It was his duty to-day to drive out all demons. On a small stool in front of him lay a triangular piece of white paper marked like a checkerboard. Written on it in demon language were prayers about heretics and unbelieving monks who do not pray. All evil to which man is heir had been coerced by means of spells and magic to enter the white paper.

The priests chanted, while the oil became hotter and hotter until it caught fire. Black smoke rose from the burning pot (see illustration, page 618). The new lama onze, who had risen, stood like a statue, then wrapped several protecting silk scarfs around his right hand. The triangular paper was fastened to two forked twigs and held over the pot.

Soldiers with loaded rifles stood at a respectful distance. Before the wind-driven flames the mob voluntarily fell back; for all the oil was now on fire, and the blaze shot 20 feet into the air.

The lama onze moved slowly forward toward the flame-spouting pot, in his hand a bowl containing sulphur and salt mixed with red wine. He was very cautious, no doubt remembering the fate of a predecessor who had died of injuries received at this ceremony. All eyes were upon him. With a final step forward, he threw the contents of his bowl into the fire. There was an explosion, and a high, blue flame rose to the sky, carrying away the ashes of the magic paper. The soldiers fired their rifles. Three years of bad luck to come, as well as many demons, had gone up in smoke.

Photograph by Gerard Hubbard

"AND GLORY GUARDS WITH SOLEMN ROUND THE BIVOUAC OF THE DEAD"

On the front portico of the Amphitheater in the Arlington National Cemetery (see page 623), overlooking the National Capital, the unfinished tomb of the Unknown Soldier is guarded throughout the daylight hours. A national competition among architects has been held for plans to complete the tomb, and of the designs submitted five have been chosen, from which one eventually is to be selected. The crypt of the Amphitheater (beneath the columns in the foreground) was used for a short time as a receiving vault for the World War dead when they were brought home from the battlefields of France.

FAME'S ETERNAL CAMPING GROUND

Beautiful Arlington, Burial Place of America's Illustrious Dead

By Enoch A. Chase

ACROSS the Potomac River from Washington, almost directly opposite the white marble temple dedicated by a grateful people to the memory of Abraham Lincoln, lies Arlington National Cemetery. High on the Virginia hills, it overlooks the Capitol, the Washington Monument, and the broad panorama of the Capital City—a view even more imposing than that at Mount Vernon, less than twenty miles below, on the same side of the Potomac.

Here, beneath the lofty oaks and elms, on hillsides and in shady dells, under magnificent marble tombs and modest headstones, lie thousands upon thousands of America's heroic dead. The greatest admirals and generals and the humblest soldiers and sailors have been laid in their last resting places, with equal honors: to each a flag-draped coffin, a firing squad for the traditional three volleys, and the lingering bugle notes of Taps. "In the democracy of the dead, all men at last are equal."

In front of the white marble amphitheater, looking toward the placid Potomac, as it flows seaward, is the tomb of the Unknown Soldier, America's shrine and symbol of a nation's respect. Here sleep thousands of unknown soldiers: in one huge grave, under one monument, lie the remains of two thousand one hundred eleven, gathered from those bloody battlefields of Bull Run, the Wilderness, and the route to the Rappahannock.

DISTINGUISHED OWNERS OF ARLINGTON ARE BURIED HERE

Not far from the old mansion, still preserved in all its dignity of former generations, lie the master and mistress of Arlington. Beneath the modest marble shafts that mark their graves, inclosed within an iron fence, the last to die of the executors of George Washington's will, George Washington Parke Custis, and his consort, Mary Lee Fitzhugh Custis, are silent hosts to their country's illustrious dead.

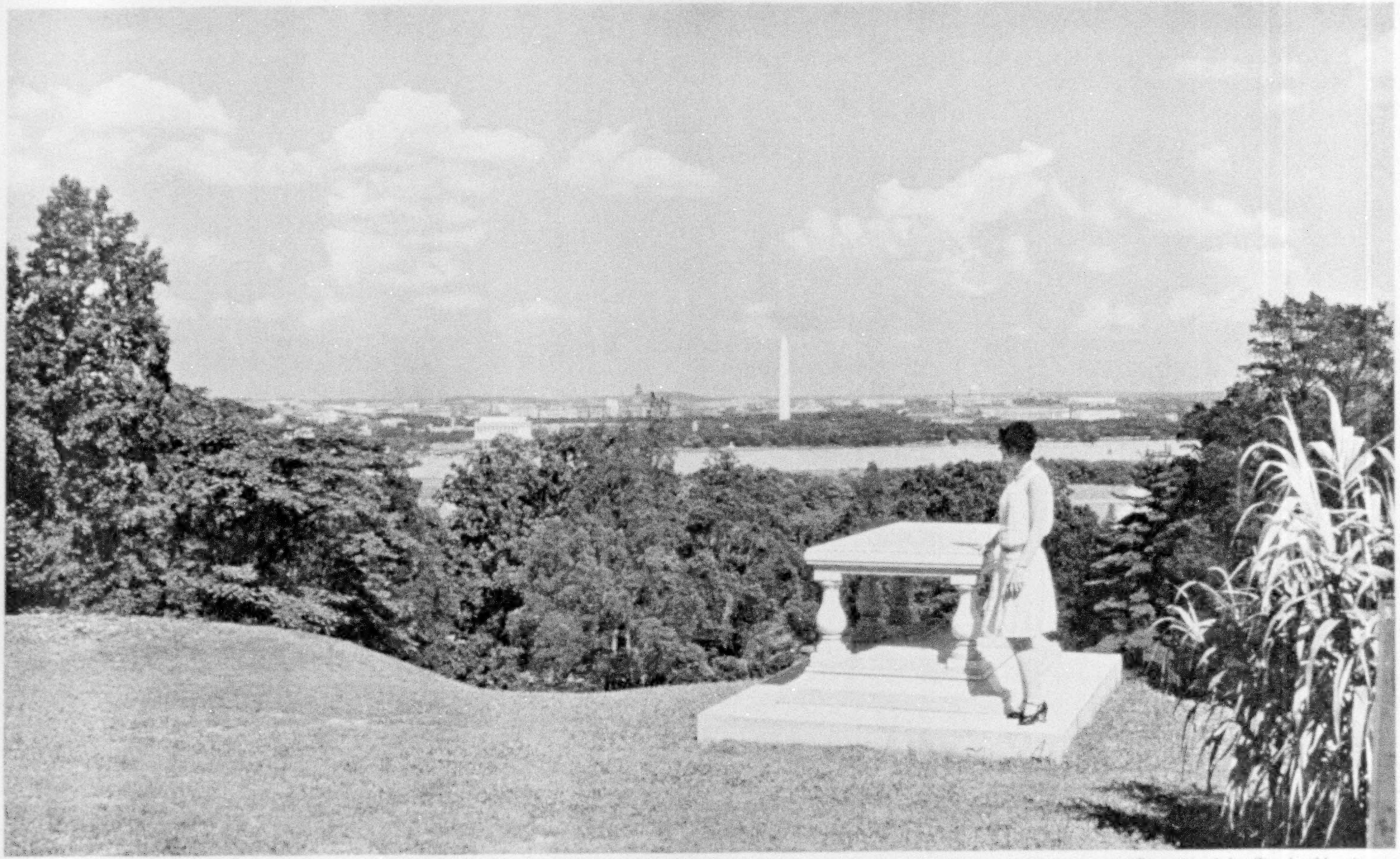
During the lifetime of Mr. Custis most of the famous men of America had been entertained at Arlington House, save only Aaron Burr, whom he would never receive. Lafayette was an honored guest for some days, upon the occasion of his farewell visit to America, in 1824. Together they visited the tomb at Mount Vernon, where Mr. Custis presented the distinguished Frenchman with a ring containing a lock of Washington's hair; and Lafayette, the gallant brother-in-arms of our first Chief Executive, wept with emotion.

To Arlington, in his young manhood, came the handsome Robert E. Lee, lieutenant in the United States Army, to woo the only child, daughter and heiress of its broad acres.

FROM AN OBSCURE GRAVE TO A PLACE OF HONOR IN ARLINGTON

To-day, immediately in front of the portico of the mansion, is the tomb of Pierre Charles L'Enfant, that eminent French engineer who laid out the plan of the city of Washington for George Washington. His mortal remains were reclaimed from an obscure grave in a desolate, almost-forgotten cemetery and brought to Arlington to be reinterred with honors in a resting place overlooking the Capital City he labored so faithfully to beautify.

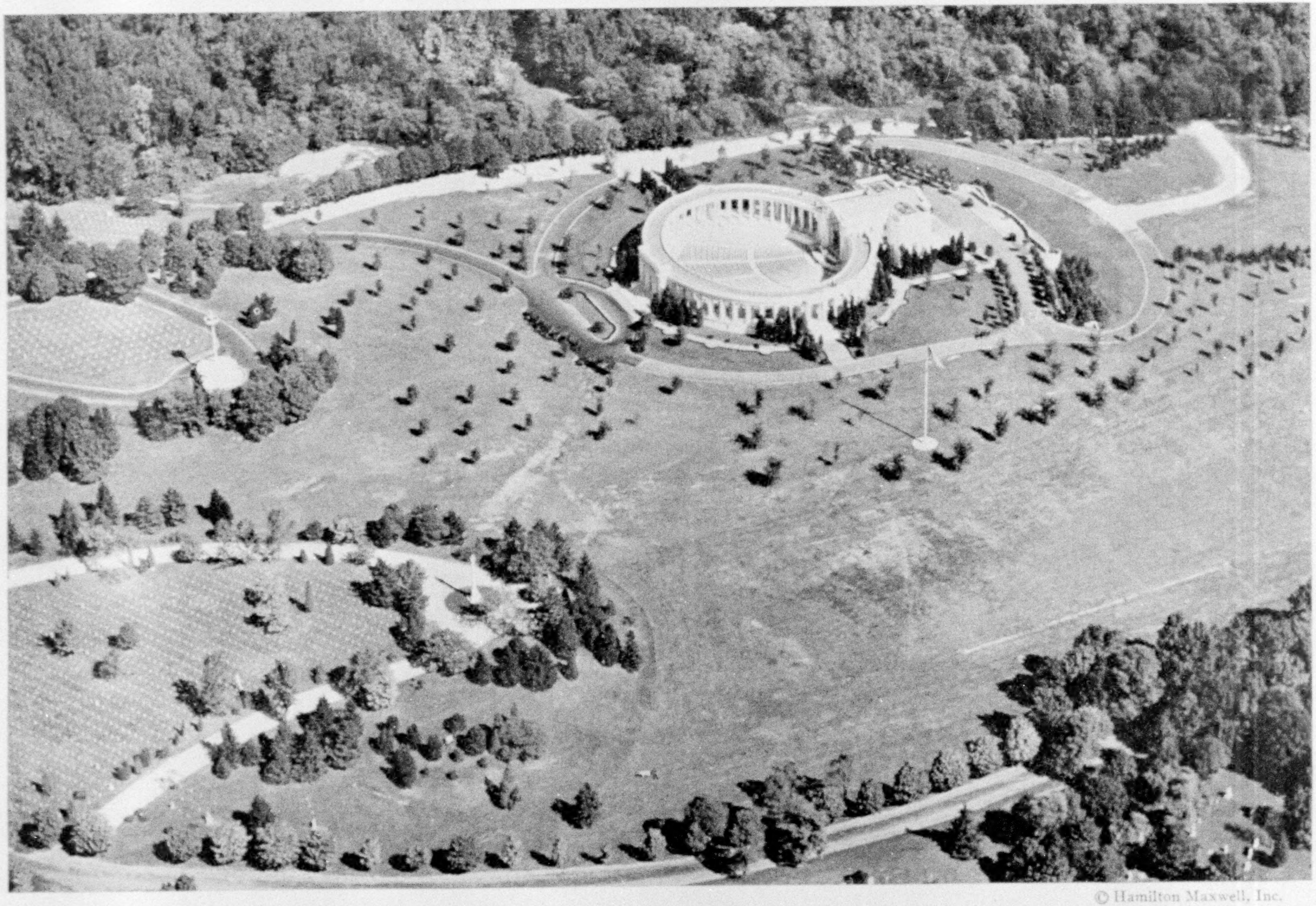
Close by sleep Phil Sheridan and Admiral David Porter. Indeed, reading the carved headstones in Arlington is like calling the roll of America's heroes: Admirals Schley, Sampson, "Fighting Bob" Evans, Peary; Generals Phil Kearny, Lawton, Miles, Leonard Wood, and hundreds of others from every State, from city, town, and hamlet. Doubtless there is no one cemetery in the world where more heroes of a nation lie buried. There are no "crosses, row on row," but simple



Photograph by Charles Martin

L'ENFANT'S GRAVE OVERLOOKS THE CITY OF HIS VISION

From the lawn immediately in front of the Arlington mansion the visitor has a matchless panorama of Washington. L'Enfant, the eminent French engineer who drew the plans for the National Capital, was born in Paris, August 2, 1755, and died at Chilham Castle Manor, Maryland, June 14, 1825. For nearly 100 years his remains lay in a neglected grave near Bladensburg, Maryland, but in 1909 they were transferred to Arlington and reinterred with high military honors (see, also, illustration, page 638).



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THE WHITE MARBLE AMPHITHEATER FROM THE AIR

In the left foreground is the Spanish War Section, with the Battleship *Maine* Section at the middle left. In 1902 the National Society of the Colonial Dames of America erected a magnificent granite shaft, surmounted by a bronze eagle with outspread wings (shown in its circular grass plot), over the graves of nearly 1,000 victims of bullets and yellow fever in Cuba and Porto Rico who were brought home in 1899.

Official Photograph, U. S. Army Air Corps

AN AIR VIEW OF ARLINGTON HOUSE

Beyond the impressive building, often referred to as the Lee rather than the Custis mansion, is the Fort Myer cavalry post, on the ground where once stood Fort Whipple, one of the many entrenched camps that rimmed the Federal City during the Civil War. The Arlington Memorial Bridge, spanning the Potomac, now in course of construction, will have its eastern terminus at the Lincoln Memorial, in Washington, and its western terminus at the foot of the wooded slope in Arlington Cemetery, within a quarter of a mile from the foreground of the picture. Here, almost in the very grounds of his wife's former plantation, will end Robert E. Lee's memorial, the great Lee Highway, a boulevard 200 feet wide.

white headstones can be counted by the thousands.

Arlington was once part of a large grant of land to Robert Howsen, a ship captain, from Sir William Berkeley, Royal Governor of Virginia, as a reward for bringing colonists to America. A patch of Virginia wilderness infested with Indians and wild animals apparently meant little to a seafaring man; so Howsen soon sold his land for a few hogsheads of Virginia tobacco, which were quickly convertible into cash in London.

The story of Arlington really begins with John Parke Custis, stepson of George Washington and only son of Martha Washington by her first husband, Daniel Parke Custis. In 1778, young Custis purchased 1,100 acres of Howsen's original grant from Gerard Alexander, of an early Virginia family, for whom the colonial town of Alexandria was named.

Photograph by Charles Martin

"ALWAYS READY"

The impressive U. S. Coast Guard Monument was unveiled in Arlington Cemetery May 23, 1928. On the face of the pyramid, above the outstretched wings of the bronze albatross, are the crossed anchors and shield, with the Coast Guard's motto, "Semper Paratus". On one side of the pyramid is carved: "Officers and Men, United States Coast Guard Cutter *Tampa*, sunk by enemy submarine in Bristol Channel, September 26, 1918, when all on board were lost." The names of 114 of the officers and crew, including that of Capt. Charles Satterlee, are inscribed. On another face of the pyramid: "Officers and Men, United States Cutter *Seneca*, lost in bravely endeavoring as volunteers to salvage torpedoed British steamer *Wellington*, Bay of Biscay, September 17, 1918," followed by the names of 86 of the *Seneca's* crew.

It is easy to imagine that the prudent, land-loving George Washington, himself the owner of thousands of Virginia's broad acres,* sought to admonish his hard-riding, fox-hunting stepson to acquire some land with a part of the fortune left him by his own father. John Parke Custis gave the name of Arlington to his newly acquired domain, after the earlier homestead of his family in Northampton County, which had been so named in honor of Henry Bennet, Earl of Arlington.

While his august stepfather had Cornwallis bottled up in Yorktown during the closing days of the Revolutionary War, Custis left off fox-hunting and joined the General's entourage as aide-de-camp. However, his days of soldiering and glory were short-lived. He was suddenly

* See "The Home of the First Farmer of America," by Worth E. Shoults, in the National Geographic Magazine for May, 1928.

Photograph by Gerard Hubbard

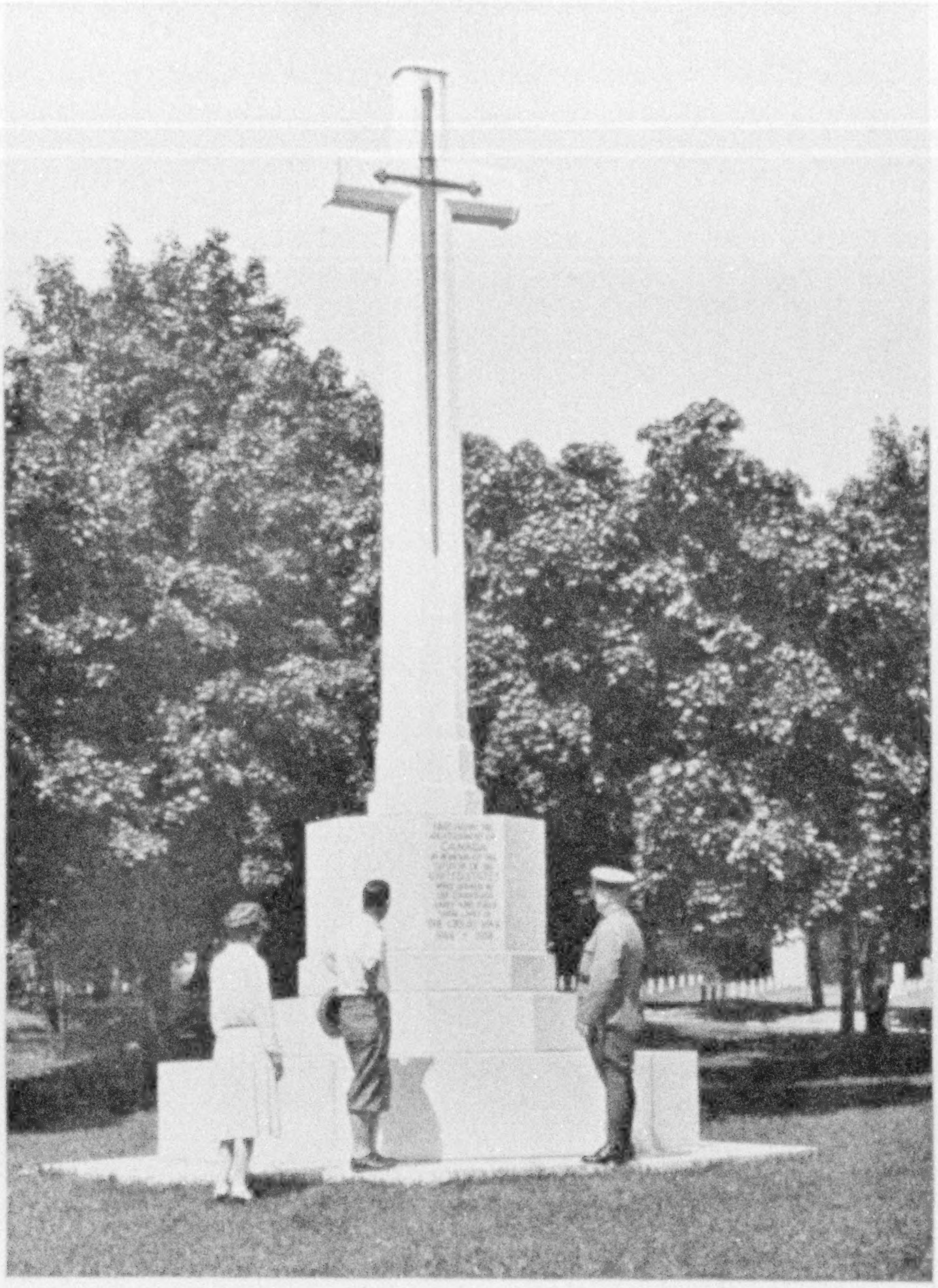
"YOUR OWN PROUD LAND CLAIMS FROM WAR HIS RICHEST SPOIL—THE ASHES OF HER BRAVE"

During the years 1920 to 1923, the remains of 273 officers and 4,968 enlisted men of the World War were brought home from overseas. Since that time only occasional World War victims have been reinterred in Arlington. In this section, on the marble headstones of the soldiers of the Jewish faith is chiseled the Star of David; on all others is carved a cross. At intervals along the boulevards and avenues of the cemetery metal tablets have been placed, each inscribed with a stanza from Theodore O'Hara's famous poem, "The Bivouac of the Dead," which was written in memory of Kentucky soldiers killed in the Mexican War.

© Harris & Ewing

"NOR SHALL YOUR GLORY BE FORGOT WHILE FAME HER RECORD KEEPS"

In observance of the ninth anniversary of the signing of the armistice, President Coolidge, Dwight F. Davis, Secretary of War (left), and Curtis D. Wilbur, Secretary of the Navy (right), stood in silent prayer at the tomb of the Unknown Soldier in Arlington National Cemetery.



Photograph by Gerard Hubbard

A TRIBUTE FROM THE DOMINION OF CANADA

On November 11, 1927, the Canadian Government unveiled this memorial in honor of the citizens of the United States who served in the Canadian Army and gave their lives in the World War. The design for each private monument erected over a grave in Arlington, except the regulation marble headstones furnished by the Government, must first be submitted to the Quartermaster General's Office for approval, and its dimensions must conform to prescribed regulations, according to the rank of the officer. No flowers or vines are now permitted to be planted on the graves.

stricken with camp fever and was hurried to the home of Colonel Bassett, at Eltham, near Yorktown, where he died November 5, 1781, at the age of 28, leaving a young widow, Eleanor, daughter of Benedict Calvert, of Mount Airy, Maryland, a descendant of Lord Baltimore.

Two of Custis's four small children General Washington at once adopted and took to Mount Vernon to live with him and their grandmother, Martha Washington. They were George Washington Parke Custis and Eleanor, known as Nellie Custis, who afterward married Major Lawrence Lewis, a nephew of General Washington. These children grew up at Mount Vernon.

Young Custis inherited Arlington from his father, but did not live there until after the death of Martha Washington, in 1802, when the home at Mount Vernon was broken up. Finding himself at this time one of the richest young men in America, he began building the grand mansion house on the hills overlooking the Potomac and the budding city of Washington.

PRICELESS FURNISHINGS OF MOUNT VERNON WERE BROUGHT TO ARLINGTON

To this large and splendid home he brought his Virginia bride, Mary Lee Fitzhugh; she was not yet out of her teens. With their many slaves they lived in splendor. Mary Ann Randolph Custis, their only child who lived to maturity, was born here in 1808.

To Arlington House came most of the priceless relics from Mount Vernon upon the death of Martha Washington—pictures, silver, china, furniture, Washington's tent, the bed in which he died. A few miles away, at Fairfax Courthouse, the General's last will and testament, written in his own hand, was filed, and there it is to-day, where any visitor may see it.

Life flowed on in elegance and ease at Arlington for more than half a century,

until October, 1857, when the master was laid to rest beneath his own lofty trees, beside his wife, who had died four years previously.

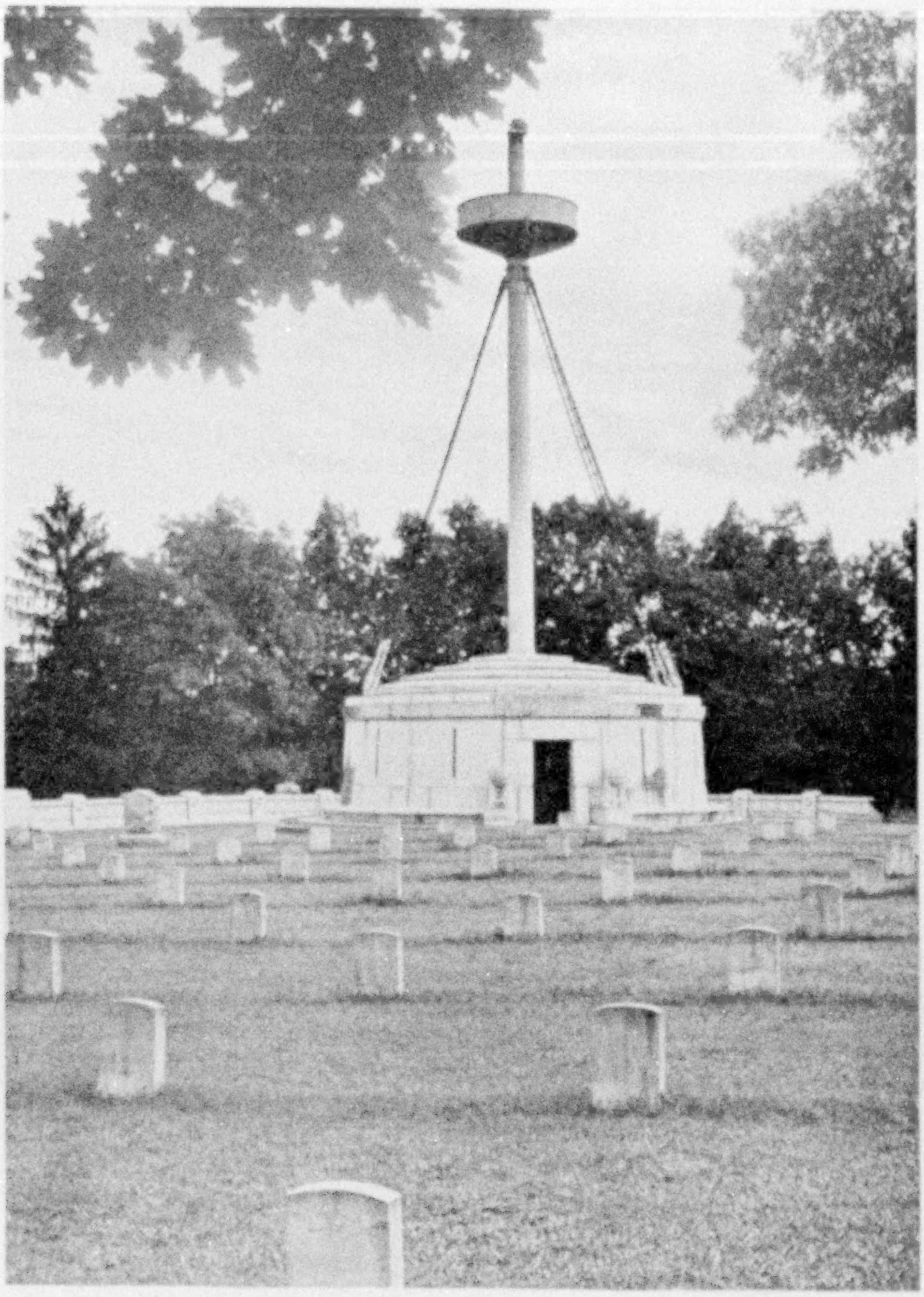
At Arlington House, on a stormy evening in June, 1831, Mary Ann Randolph Custis became Mrs. Robert E. Lee. At the death of her father she became the life tenant of Arlington plantation.

In October, 1859, at Harpers Ferry, farther up the Potomac, John Brown began his tragic assault upon the United States arsenal, and Colonel Lee was suddenly called away from his wife and children at Arlington to take command of the United States troops and suppress the outbreak.

Whenever Robert E. Lee could find time from his arduous duties as a soldier, he was at Arlington with his family, caring for the great plantation. He was a good manager and Arlington lost nothing in value under his care.

With the opening days of the great Civil War drama, in 1861, it was manifest that Virginia would secede from the Union. In Washington Colonel Lee was sounded to see whether he would take command of the Union Army. He declined, and two days later, April 20, sent his resignation to the Secretary of War. He was soon summoned to Richmond, where with great reluctance he drew his sword in defense of Virginia and the Southern Cause.

And now came dark days at Arlington. The peace and quiet of former times were gone, never to return for Colonel and Mrs. Lee and their children. If the priceless things inherited from Mount Vernon were to be saved, there was no time to lose; the storm was gathering and might break any day. From Richmond, where he was organizing the army which later became



Photograph by Charles Martin

IN REMEMBRANCE OF THE "MAINE"

One of the fighting tops of the ill-fated battleship *Maine* surmounts a granite pedestal over the graves of the victims of the disaster in Havana Harbor in 1898, which was a forerunner of the War with Spain. In December, 1899, 165 bodies were disinterred at Havana and brought to Arlington. The flag-draped coffins were all lowered into their graves at one time, in the presence of President McKinley and his Cabinet and other dignitaries. When the warship was finally raised, years later, the remains of 65 other victims were recovered and brought home in March, 1912, to be buried in Arlington. On the base of the monument are the names of those who lost their lives in this catastrophe. Rear Adm. Charles Sigsbee, who was captain of the *Maine* at the time, is buried in Arlington, but not in the *Maine* Section.

Photograph by Charles Martin

EACH YEAR THE SILENT POPULATION OF FAME'S CAMPING GROUND IS RECORDED IN FLOWERS

Just south of the Mansion is the "Temple of Fame," inscribed with the names of Washington, Lincoln, Grant, and Farragut on the circumference, those of McPherson, Sedgwick, Reynolds, Humphreys, Garfield, Mansfield, Thomas, and Meade on the columns. Up to August 31, 1928, 37,061 dead had been buried in Arlington, of which number 4,713 are unknown. In the right background, through the trees, can be seen the tomb of 2,111 unknown Civil War dead (see page 631).

Photograph by Charles Martin

ARLINGTON'S FIRST PROPRIETOR IS BURIED HERE

The obelisk at the left is over the grave of George Washington Parke Custis, "the child of Mount Vernon," born at Mount Airy, Maryland, April 30, 1781; died at Arlington House October 10, 1857. The monument to the right, beyond the tree, is that of Mary Lee Fitzhugh Custis, a descendant of the Fitzhughs and Randolphs of Virginia, who died at Arlington House April 23, 1853. The entire inclosure is carpeted with lilies of the valley.

Photograph by Orren R. Louden

THE FIRST TOMB FOR UNKNOWN DEAD IN ARLINGTON

The inscription reads: "Beneath this stone repose the bones of two thousand one hundred and eleven unknown soldiers, gathered after the war from the fields of Bull Run and the route to the Rappahannock. Their remains could not be identified, but their names and deaths are recorded in the archives of their country; and its grateful citizens honor them as of their noble army of martyrs. May they rest in peace. September, A. D. 1866."

Photograph by Charles Martin

ADMIRAL PEARY AND AVIATOR FLOYD BENNETT REST ON THE SAME HILLSIDE

The intrepid American naval officer who was the first to attain the North Pole sleeps beneath a granite globe which he designed and which was erected to his memory by the National Geographic Society. To the left is the grave of Floyd Bennett, who accompanied Comdr. Richard E. Byrd on the first conquest of the North Pole by air and later lost his life in attempting a rescue of fellow aviators.

the Army of Northern Virginia, General Lee wrote almost frantic letters to his wife to make haste; but it was no easy task to dismantle a mansion the size of Arlington House and remove its priceless contents deeper into Virginia, where they would ultimately be behind the Confederate lines.

Working with desperate haste, Mrs. Lee removed as many of the Mount Vernon furnishings as possible, but when, in the middle of May, she deemed it advisable to leave Arlington and seek refuge at Ravensworth, the home of relatives, near Fairfax Courthouse, her task was still unfinished. Some of the furnishings had to be left behind. The stately mansion was never again to shelter within its hospitable walls the Custises and Lees of Virginia and their distinguished guests.

THE UNITED STATES TAKES POSSESSION

Gen. Winfield Scott ordered General Mansfield to seize and fortify these high hills on the Virginia side of the river, lest Confederate cannon should be planted there and raise havoc with the Federal City. On the night of May 23 columns of troops moved out of Washington, crossed the river under cover of darkness, and before noon the next day all these fair Virginia hills were in the hands of the Union forces.

General McDowell took up his headquarters in Arlington House. Under orders from Secretary of War Stanton, the remaining family heirlooms that had come from Mount Vernon were packed and sent to Washington, where they were stored in the Patent Office. Many years later some of them were restored to Mount Vernon, while some went to the National Museum in Washington, where they still remain.

Not for a day since May 24, 1861, have the armed forces of the Federal Government relinquished their possession of the fields and wooded slopes of Arlington plantation.

Gone were the halcyon times of lavish entertainment; no more would picnic parties cross the Potomac to spend the day in

the master's pleasant groves down by the river shore, beside the famous Custis spring. All had been welcome to enjoy his bounty. He had built a pavilion for their pleasure and hired musicians to play for their dancing. In one season, it is said, more than 20,000 people crossed the river, as the guests of George Washington Parke Custis, to picnic in the groves by the famous spring.

After the first battle of Bull Run many thousands of the defeated Union troops bivouacked on Arlington's hills. Numerous field hospitals were hastily constructed to care for the wounded, and all those fair acres became an armed camp. As the soldiers began to die from wounds and camp diseases, the question of finding adequate burial grounds became a serious one. However, it was not until the spring of 1864 that soldier dead were buried in Arlington.

Photograph by Charles Martin

THE DISCOVERER OF THE ANTARCTIC CONTINENT IS HOME FROM THE SEA

"It affords me much gratification to report that we have discovered a large body of land within the Antarctic Circle, which I have named the Antarctic Continent," was the laconic report made by Charles Wilkes after cruising completely around the world, determining the position of the South Magnetic Pole, and charting 500 islands and atolls and 100 harbors, with observations of tides and currents—all the results of a voyage of six years, from 1838 to 1844. The monument to his memory in Arlington National Cemetery was dedicated in 1920.

In the meantime the United States claimed title to the property through a tax sale for unpaid taxes. Mrs. Robert E. Lee was, of course, behind the Confederate lines. Arlington plantation had been abandoned and occupied by the Federal troops. Pursuant to an act of Congress appertaining to the collection of taxes in such districts, the United States commissioners charged with that duty had refused to receive the taxes on Arlington which Mrs. Lee sent for payment by a Mr. Fendall. They held that the owner must tender the money in person. Inasmuch as they were exercising their functions within the military lines of the Federal Army and inasmuch as she was behind the Confederate lines, she could not do this.

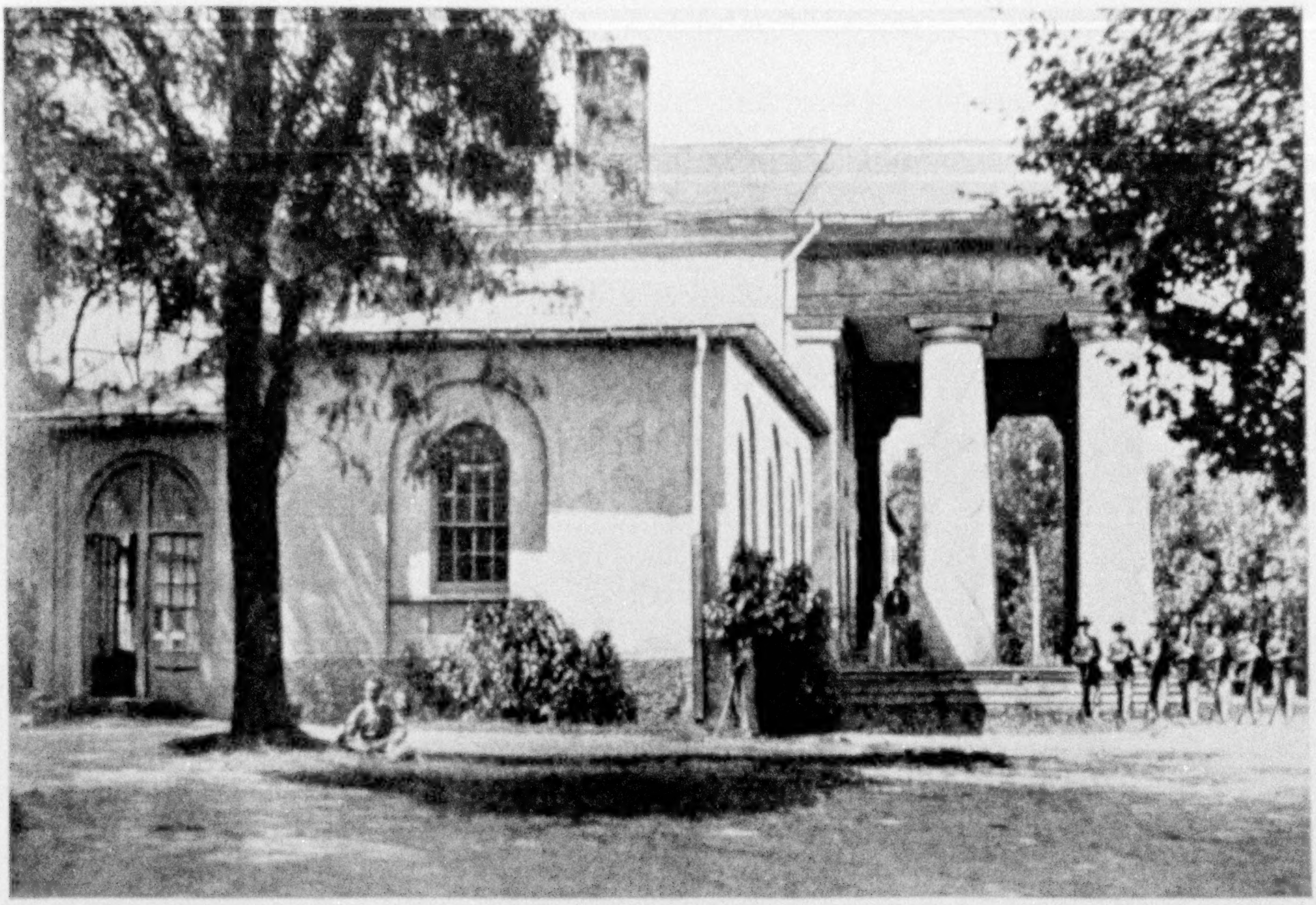
There was due only $92.07, with a 50 per centum penalty, when, on January 11, 1864, the eleven hundred acres were sold "according to law," as the tax-sale certificate recited:

". . . For Government use, for war, military, charitable, and educational

Photograph by Gerard Hubbard

A BRONZE MEMORIAL MARKS THE CONFEDERATE SECTION IN ARLINGTON

In 1900 Congress approved a Confederate Section in this national cemetery. The 128 Confederate dead in Soldiers' Home Cemetery and 136 in scattered graves in Arlington were reinterred in 1901. The sculptor of the memorial, Moses Ezekiel, himself took part in the battle of New Market, Virginia.



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ARLINGTON, A SPACIOUS PRIVATE DOMAIN AT THE OUTBREAK OF THE CIVIL WAR, GUARDED BY UNION SOLDIERS

Congress has authorized a so-called "restoration" of the mansion under the supervision of the War Department, but the building has always been kept in repair since its occupation by Union soldiers on May 24, 1861. It is hoped, under the restoration provision, that many of the original furnishings may be restored to the once hospitable home. The Mount Vernon relics, furniture, silver, and china, are, of course, back at Washington's home and will never be returned to Arlington.

> purposes, said commissioners did bid in the same to the United States for the sum of twenty-six thousand and eight hundred dollars, being not less than the taxes, penalty, and costs, and 10 per centum per annum interest on said taxes. . . .
>
> "JNO. HAWXHURST,
> "GILLET F. WATSON,
> "A. LAWRENCE FOSTER,
> *"United States Direct-Tax Commissioners for Virginia."*

It was in this manner that the United States acquired its title.

LINCOLN RELUCTANTLY APPROVED ARLINGTON'S USE AS A CEMETERY

President Lincoln used to drive out to Arlington to visit the wounded in the field hospitals. During one of these visits he was in earnest conversation with Q. M. Gen. Montgomery Meigs, as they strolled back and forth across the brick pavement of the portico. General Meigs was trying to obtain the President's consent to bury the Army's dead in Arlington. The Soldiers' Home cemetery was almost filled and it was far away, on the other side of Washington.

While the General was thus discussing the subject with the President, a squad of soldiers walked past, carrying the body of a soldier on a litter. General Meigs bade them set down their burden. He then asked the corporal in charge how many unburied dead he had that day. The soldier said eleven. The General then turned to the President and renewed his argument for permission to bury them in Arlington, and Mr. Lincoln reluctantly gave his consent.

General Meigs immediately gave directions for setting aside a burial ground just south of the mansion house, and before sunset there were eleven soldiers' graves in Arlington.

Subsequently, by an order of Secretary of War Stanton, dated June 15, 1864, 200

Photograph by Charles Martin

"WHERE VALOR PROUDLY SLEEPS"

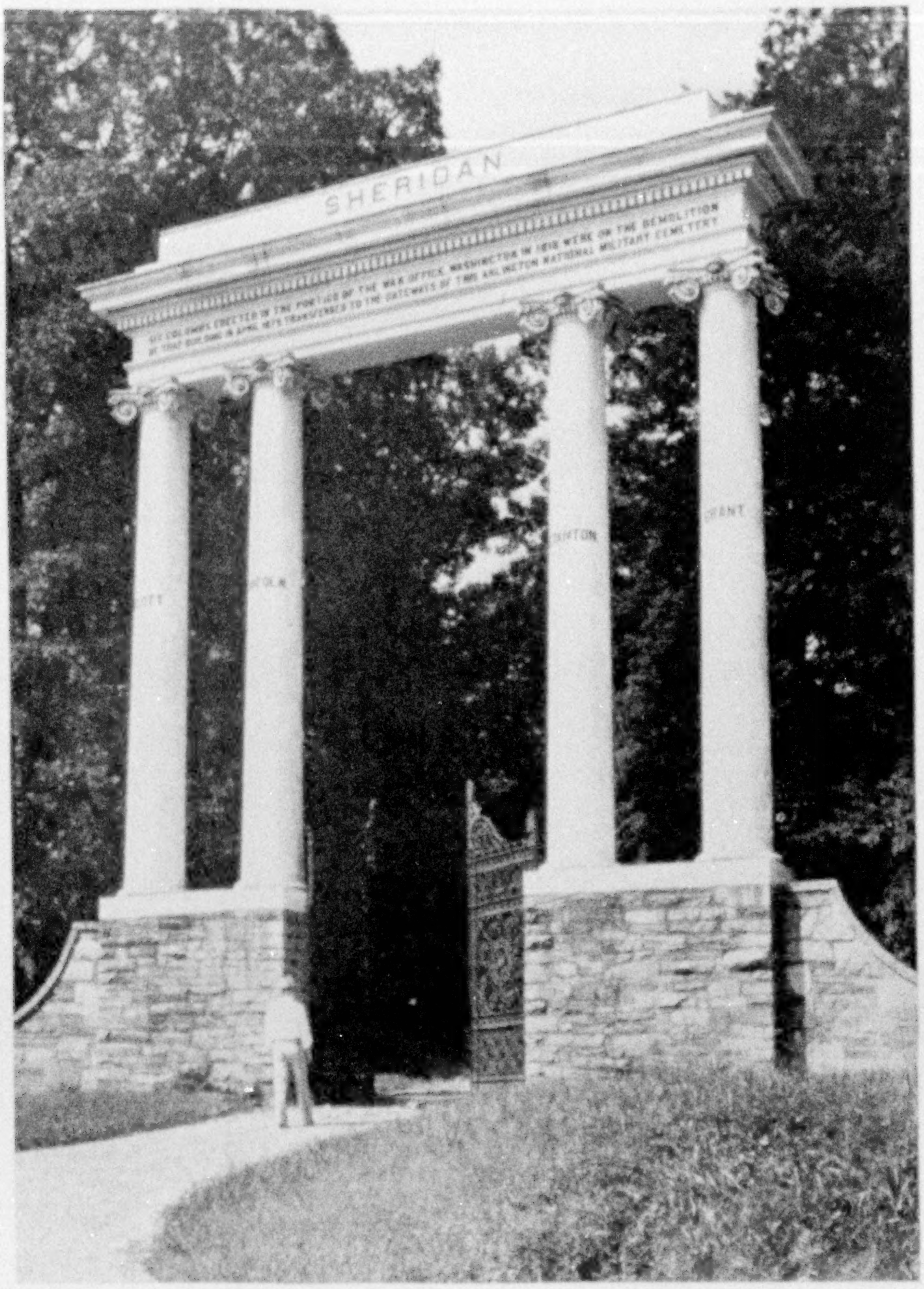
With the march of time, it has been necessary to restrict the size of burial plots allotted to officers in Arlington. To-day, commissioned and warrant officers of the Army, Navy, Marine Corps, and Coast Guard are entitled to a lot for three graves, one for the officer, one for his wife, and one for a minor child or adult unmarried daughter. A noncommissioned officer, private soldier, or sailor dying away from his home or place at which he enlisted may, upon his family's request, be buried in Arlington and his wife may be interred in the same grave.

acres of the Arlington estate were set apart as a national cemetery for the burial of soldiers and sailors of the United States. To-day the area comprises 408 acres.

A large part of the original estate is occupied by Fort Myer, a renowned cavalry post, covering the site of old Fort Whipple, one of the earthwork defenses of Washington constructed during the Civil War. The earthen ramparts of old Fort McPherson, situated on the highest point of ground, where the frowning muzzles of its guns would dominate the approaches from all directions, are still to be seen within the stone-wall inclosure of the cemetery. It was not completed and occupied until the Civil War was nearly over, and it is the only one preserved of all those that once encircled the National

Capital as the last line of defense.

General Lee died in 1870; Mrs. Lee died three years later, when her eldest son, George Washington Custis Lee, became entitled to the Arlington property, as remainderman, according to the will of his grandfather. Mr. Lee immediately set about recovering his property. His lawyers advised him that he was the lawful owner, and that the United States was a trespasser upon his land, inasmuch as the tax title was void.



Photograph by Charles Martin

MAJESTIC PORTALS GUARD THIS ENTRANCE TO ARLINGTON'S HALLOWED ACRES

The cemetery is surrounded by a low stone wall and access is obtained through seven gates. Three generals in addition to Sheridan have been honored by having portals named for them. They are McClellan, whose gate is just south of this one, and Ord and Weitzel, whose names appear jointly on the most northerly of the entrances. The gates are closed at 5 to 7:30 in the afternoon, according to the season of the year.

AFTER WINNING HIS CASE, LEE IS MAGNANIMOUS

After petitioning Congress in vain to restore his estate, finally, in April, 1877, he began a suit in the Circuit Court of Alexandria, Virginia, in ejectment, against the custodians of the property for the United States.

Through the Attorney General, the Government at once intervened and by petition had the case removed to the United States Circuit Court for the Eastern District of Virginia, where, after a long legal battle, with an array of counsel upon both sides, a verdict was rendered in favor of Mr. Lee in April, 1879. The Attorney General then carried the case to the Supreme Court of the United States, where it was argued in October, 1882. On December 4, 1882, the Supreme Court, by a divided bench, handed down its famous opinion, which held that the Government's tax title was void, and that the Arlington estate belonged to George Washington Custis Lee.

There was nothing for the Government to do but disinter the remains of thousands of soldiers and vacate the property, or buy it if Mr. Lee were willing to sell. Fortunately, Mr. Lee was magnanimous; he agreed to sell the estate for $150,000. In March, 1883, Congress appropriated the necessary money, and on March 31 Mr. Lee signed a deed conveying the land to the United States.

Since early in 1864, when the first of the nation's soldier and sailor dead were

Photograph by Charles Martin

THE PORTICO OF THE MANSION

To the right and left are the tombs of Pierre Charles L'Enfant and Philip H. Sheridan. The portico, including the pediment, is thought to have been modeled after the Temple of Pæstum, south of Naples, or the Temple of Theseus at Athens. It is 60 feet long by 25 feet deep and 21½ feet high.

buried at Arlington, the grounds have been beautified, walks and drives laid out, until it is now the most beautiful and historic military cemetery in the United States.

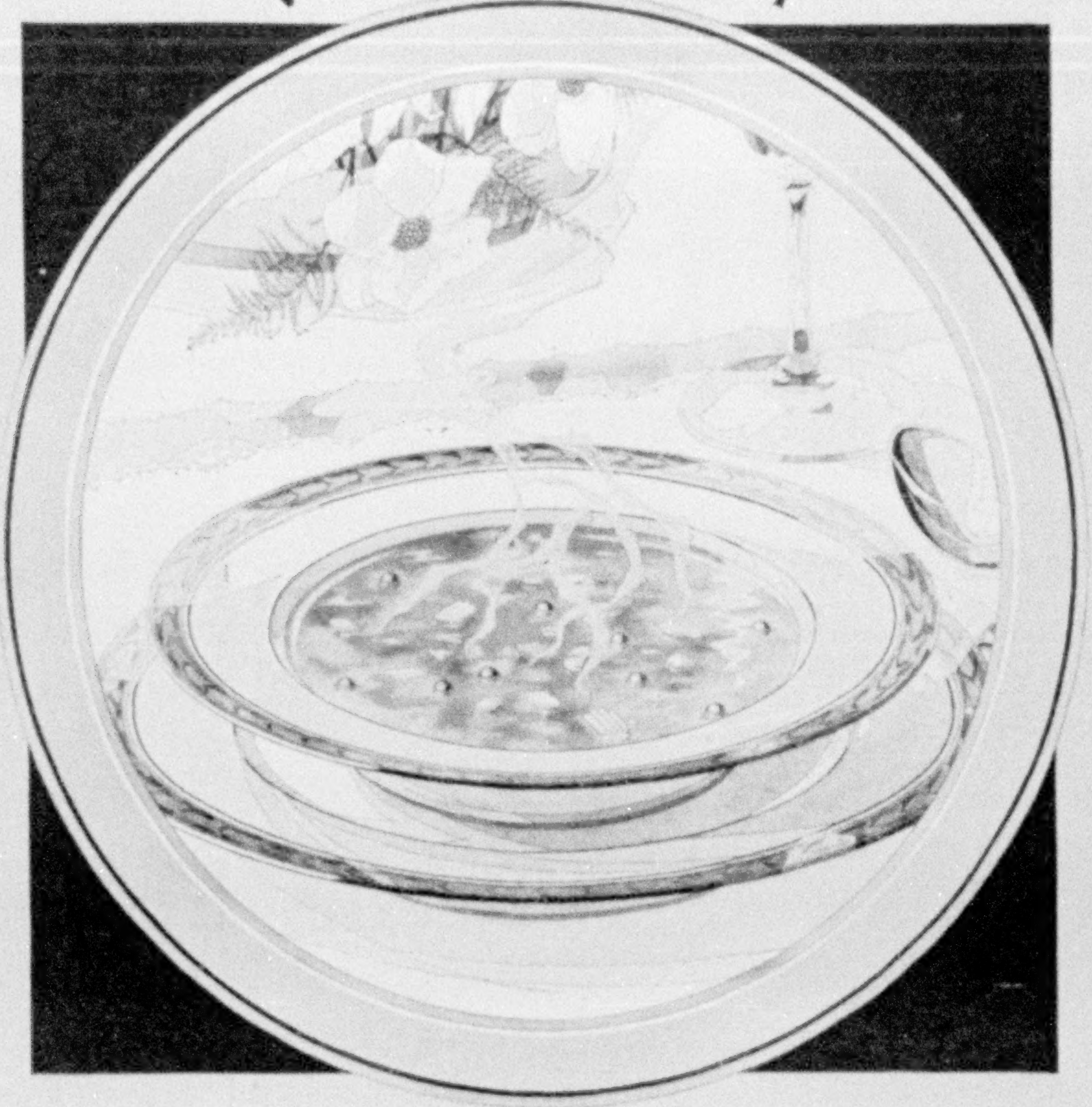
A CONTINUOUS PAGEANT OF SORROW

Seldom does a day pass at Arlington without its sad procession of a flag-draped coffin borne on artillery caisson, the crashing of three volleys over a new-made grave, and the solemn bugle strains of Taps.

From North, East, South, and West; from far-away Philippine Islands, Hawaii, Porto Rico, Guam, Maine, California, Oregon, Florida; from every clime where the men of America's Army and Navy die, come those who find their last resting place beneath the lofty trees or on the open hillsides. To-day it may be the imposing military funeral of a great general of the Army or the highest ranking admiral of the Navy, followed to their graves by the President of the United States, the Cabinet, the Justices of the Supreme Court, and all the dignitaries of the National Government; to-morrow it may be a private in the ranks, a daring aviator, or a seaman from one of Uncle Sam's destroyers of the Atlantic fleet.

Time and the years will roll on; the long rows of white marble headstones will grow in number, even as many thousands were added after the World War. The more imposing granite and marble tombs of the great captains of our nation's battle hosts will be added each passing year. Sanctified by the dust of its heroic dead, Arlington is the shrine of all America.

VEGETABLE SOUP



Get the benefit of vegetables!

Why is Campbell's Vegetable Soup so unusually rich in healthful vegetable foods? First, because it contains fifteen choice garden vegetables. Second, because in soup-making the valuable mineral salts are so largely retained.

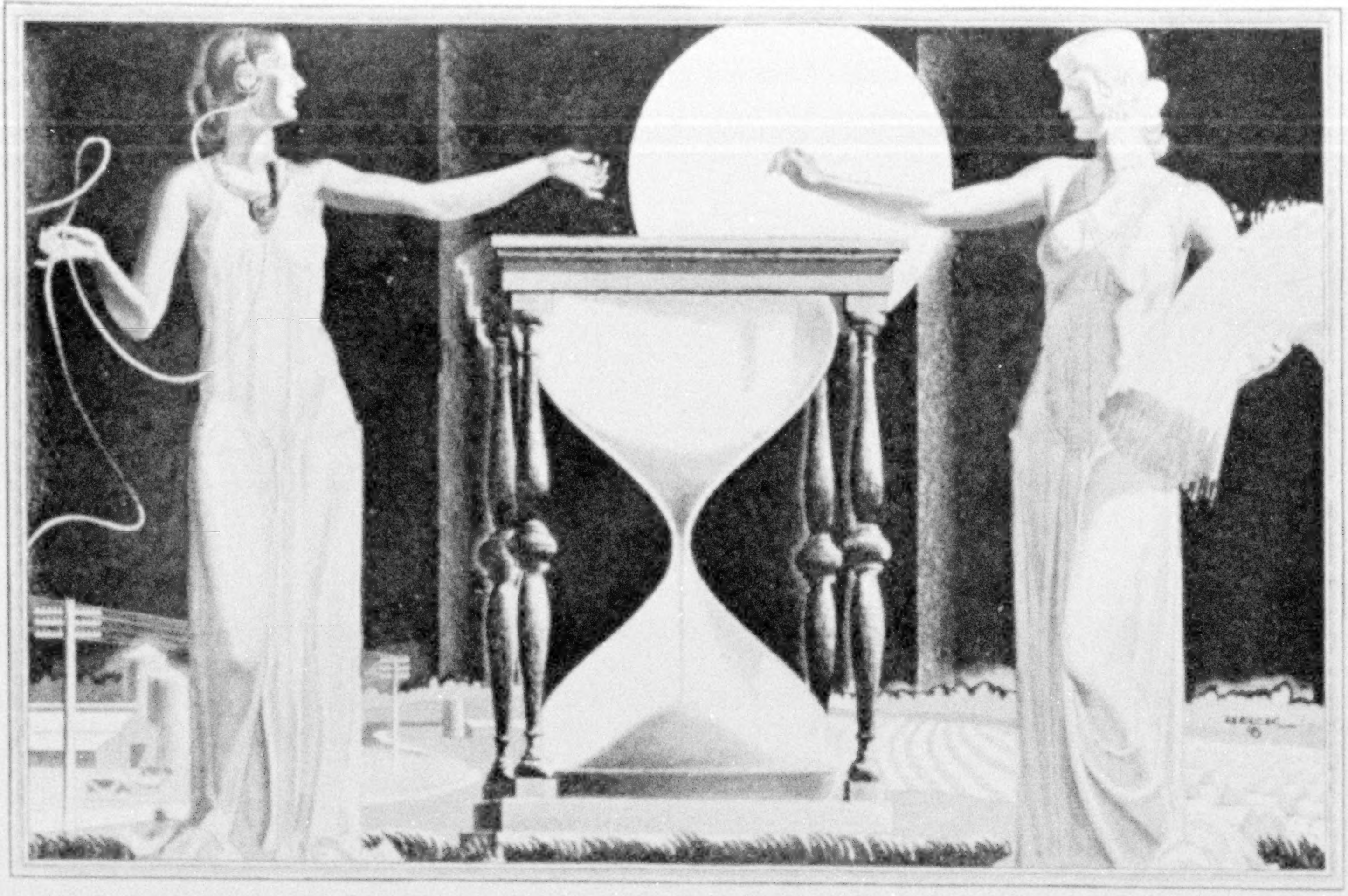
Vegetables cooked in other ways are apt to lose much of their mineral content.

LOOK FOR THE
RED-AND-WHITE LABEL

Here is a soup which should appear regularly on the family menus—especially where there are children.

Add an equal quantity of water, bring to a boil, simmer a few minutes. So convenient! Your grocer has, or will get for you, any of the 21 Campbell's Soups listed on the label. 12 cents a can.

WITH THE MEAL OR AS A MEAL SOUP BELONGS IN THE DAILY DIET



Kansas saves Twenty Years

An Advertisement of
the American Telephone and Telegraph Company

More than three hundred studies are being carried on constantly by the research, engineering and business staffs of the American Telephone and Telegraph Company and the associated companies of the Bell System to accomplish definite improvements in telephone service.

In 1927 the number of local calls not completed on the first attempt was reduced by 5 per cent. This means the better handling of 200,000,000 calls a year.

In 1926 the average time of handling toll and long distance calls was 2 minutes. In 1927 this average was reduced to 1½ minutes, with further improvements in voice transmission.

On 6,820,000 long distance and toll calls made in Kansas in 1927 an average reduction of a minute and a half was made on each call—a total of twenty years saved. These more than three hundred special studies have as their goal definite improvements in local, toll and long distance service. It is the policy of the Bell System to furnish the best possible service at the least cost to the user.

The American Telephone and Telegraph Company accepts its responsibility for a nation-wide telephone service as a public trust. It is fundamental in the policy of the company that all earnings after regular dividends and a surplus for financial security be used to give more and better service to the public.

"What is back of these bonds?"

When you buy bonds from The National City Company you get something more than dependable income and adequate security of principal. You get a broad choice of issues, and personal contact with bond men well qualified to help you select suitable offerings; you get quick service through a chain of investment offices in over fifty leading American cities, offices interconnected by thousands of miles of private wires; you get ready access to up-to-date information on your various bond holdings; and, finally, you get the broad benefits which come from dealing with an organization having a background of over a century of financial experience and maintaining close contact with investment conditions throughout the world.

Our monthly list of recommended issues will keep you informed on attractive current offerings. It will be sent upon request.

The National City Company

National City Bank Building, New York

Offices or representatives in the principal cities of the United States, Canada, Europe, China, Japan, India, Australia, South America, Central America and the West Indies.

Located in the Center of Pittsburgh Activities

is the twenty-four story Clark Building, embodying every modern feature of office building construction and equipment.

Adjoining, and a part of this imposing structure, is the Stanley Theatre — beautiful in its design, complete in its equipment and magnificent in its appointments.

These recently constructed buildings, like so many in Pittsburgh and elsewhere throughout the country, are equipped with Russwin Hardware.

CLARK BUILDING
and STANLEY THEATRE
PITTSBURGH, PA.

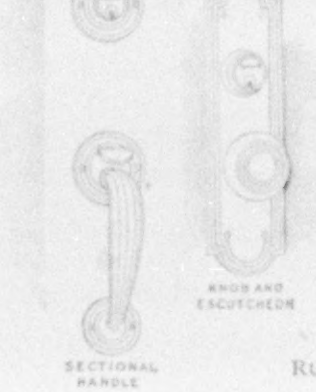
Owners —
Stanley-Davis-Clark Corporation

Architects and Engineers —
Hoffman and Henon, Philadelphia

Contractors —
W. T. Grange Construction Company
Pittsburgh

Russwin Dealers —
A. Soeffing & Company, Philadelphia

For the Bungalow .. the Pretentious Home .. the Monumental Structure

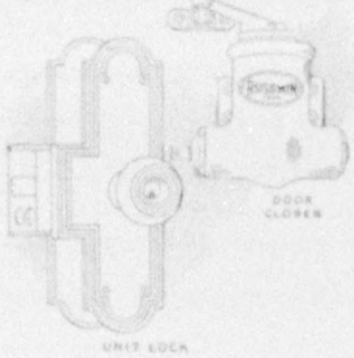


Since 1839

RUSSWIN

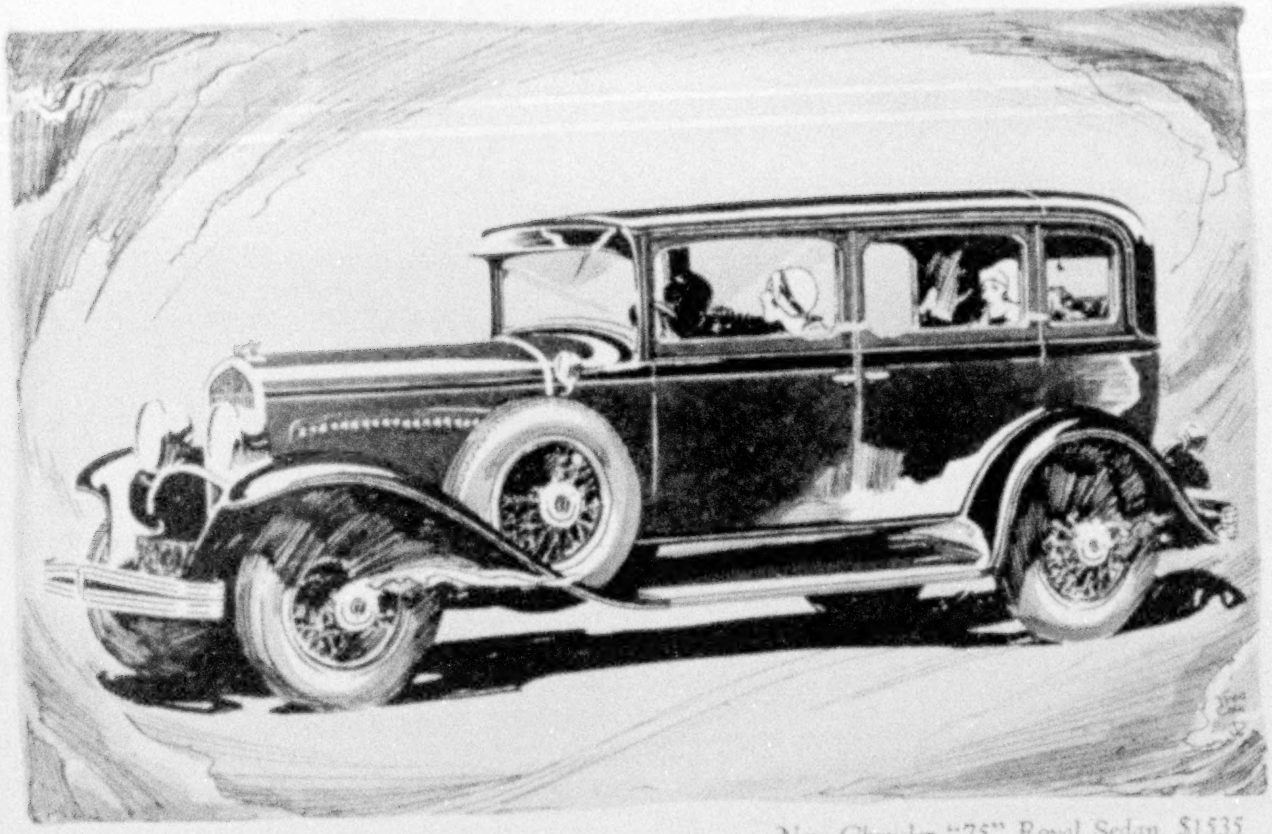
RUSSELL & ERWIN

DISTINCTIVE HARDWARE



RUSSELL & ERWIN MANUFACTURING CO., NEW BRITAIN, CONN.
The American Hardware Corporation, Successor

NEW YORK CHICAGO LONDON

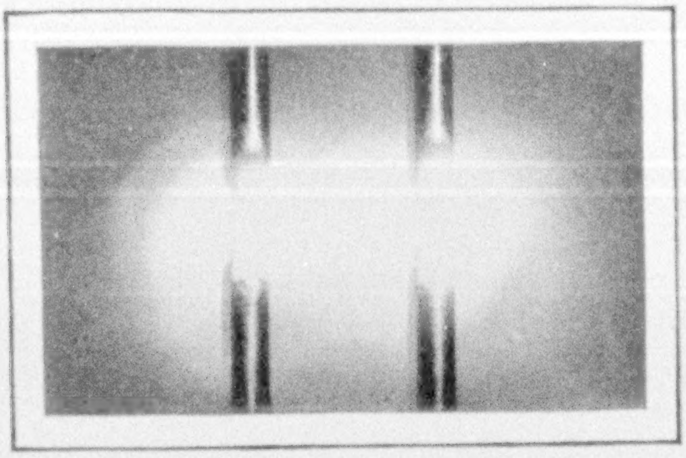


New Chrysler "75" Royal Sedan, $1535
(wire wheels extra)

Pyramiding Sales Records Re-Affirm CHRYSLER the Authority!

WHAT is the true significance of the universal approval of the new Chryslers—"65" and "75"? . . . ℭ. Doesn't it simply prove once more that whatever Chrysler does marks the way for all automobile design? . . . ℭ. How else explain that in a few brief months these new cars have established sales records in practically every city in the country, records that continued to grow week by week until today there are *ten times as many orders* for Chrysler-built cars as a year ago? . . . ℭ. And this vast chorus of approval has been equally as great overseas as at home . . . ℭ. Doesn't this demonstrate that what Chrysler builds establishes the vogue of the industry even more emphatically than did the first Chrysler of four years ago?

New Chrysler "75" Prices—*Royal Sedan, $1535; 2-passenger Coupe (with rumble seat), $1535; Roadster (with rumble seat), $1555; Town Sedan, $1655; 5-passenger Phaeton, $1795; 7-passenger Phaeton, $1865. (6-ply full-balloon tires.)* **New Chrysler "65" Prices**—*Business Coupe, $1040; Roadster (with rumble seat), $1065; 2-door Sedan, $1065; Touring Car, $1075; 4-door Sedan, $1145; Coupe (with rumble seat), $1145. All prices f.o.b. Detroit. (Wire wheels extra.)*



Good-bye to the Summer Sun— but Not to Summer Sunlight

You may keep the sun's radiance all winter with a carbon arc lamp

At the end of summer, after months in the open air and sunlight, the national health is at its peak. There is less sickness than at any other time of year. The average vitality is greater. The rays of the sun have worked their magic on human bodies.

But the sun slips southward. Every day its rays are more slanting, of less intensity. Fog and clouds drift down from the north. Chimneys foul the sky with more and more smoke. The dark, cheerless winter is approaching.

Now is the time when you can most appreciate Eveready Sunshine Carbons, which reproduce sunlight by the simple turn of a switch. The summer sun goes, but summer sunlight remains. Carbon arc lamps burning Eveready Sunshine Carbons are available for the home as well as in hospitals and offices of physicians.

Reporting on its tests of this reproduction of natural sunshine, the U. S. Bureau of Standards states: "Of all the artificial illuminants tested, it is the nearest approach to sunlight."

The marvelous thing about this light is that it can be used freely in the home, for it emits the rays of the sun in their natural proportions. Its effects are like those of sunlight. It builds health and its regular use will produce a healthy tan. It warms; it contains the infra-red or heating rays, and the visible rays, as well as the ultra-violet. If exposed too long, you will sunburn just as in summer sunshine and you may suffer serious systemic disturbances.

Marvelously effective though it is, it is not a cure-all. If you are sick, do not court the dangers of self-diagnosis but see your doctor. He has at his command the several types of Eveready National Therapeutic Carbons, which are sold on prescription only.

The arc lamps in which Eveready Sunshine Carbons are used in the home are both convenient and economical. They are portable, and can be moved from room to room in the house, wherever there is an electric socket. These arc lamps are sold by medical supply companies and some electric light companies. If you have difficulty in finding them, write to us and we will be glad to send you a list of manufacturers making adequate and dependable arc lamps. Write to the National Carbon Company, Inc., Cleveland, Ohio. Unit of Union Carbide and Carbon Corporation.

EVEREADY
Sunshine Carbons
TRADE MARK

THOUSANDS *more now enjoy its beauty, power and economy*

THE brilliant success of the Standard Six has brought the number of Willys-Knight owners to more than 325,000. And new thousands are being constantly added—motorists who find that the *patented* double sleeve-valve engine surpasses even its reputation for velvet smoothness, silent power and carefree, economical operation. ¶ All of Willys-Knight's exclusive advantages are now made available to a great new market—at the lowest price in history! ¶ A brief demonstration of the Standard Six will reveal Willys-Knight's quick starting, flashing pick-up, high speed and ease of control. And long ownership of the Standard Six will reveal Willys-Knight's unfailing dependability, rugged stamina and increasing efficiency.

WILLYS-OVERLAND, INC., TOLEDO, OHIO
Willys-Overland Sales Co., Ltd., Toronto, Canada

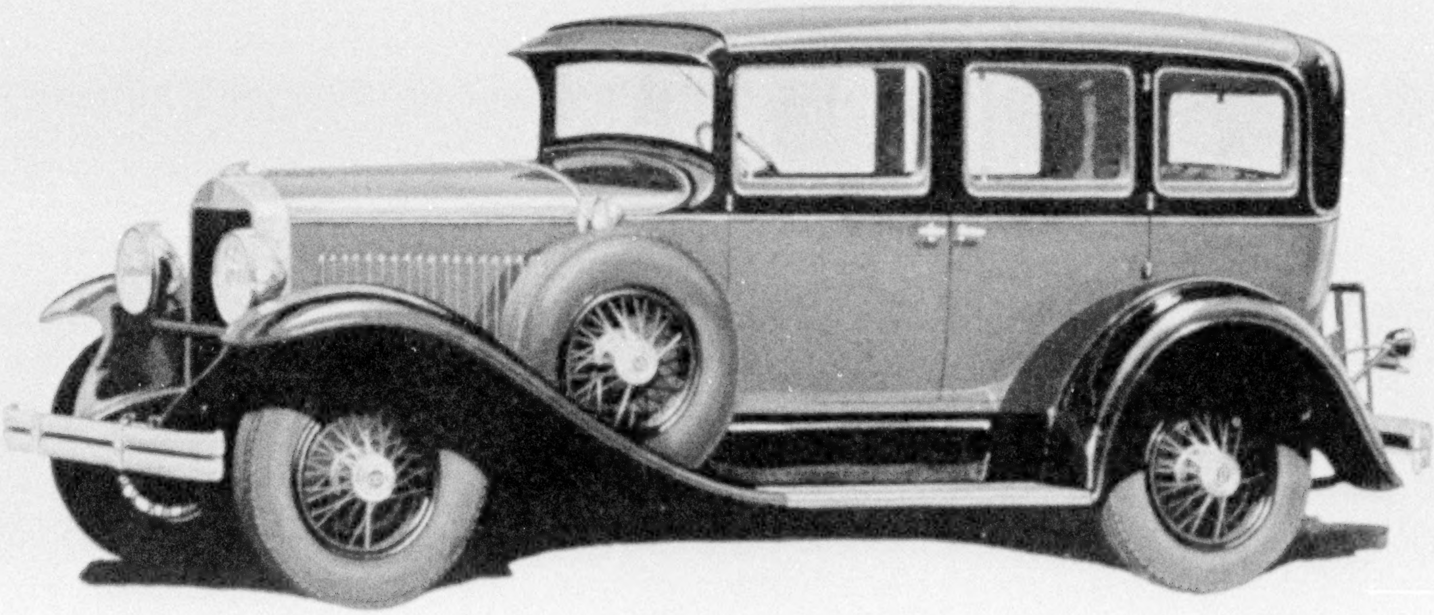
WILLYS ◆ KNIGHT SIX

Four Speeds Forward

[Two High Speeds
Standard Gear Shift]

Driving with four speeds forward, you have *two* high speeds instead of one. The gear shift is standard — you start in second, advance to third, and then to fourth. First is a reserve speed, instantly available, but seldom used. Four speeds forward give a new thrill to motoring — which we invite you to enjoy.

Joseph B. Graham
Robert C. Graham
Ray A. Graham

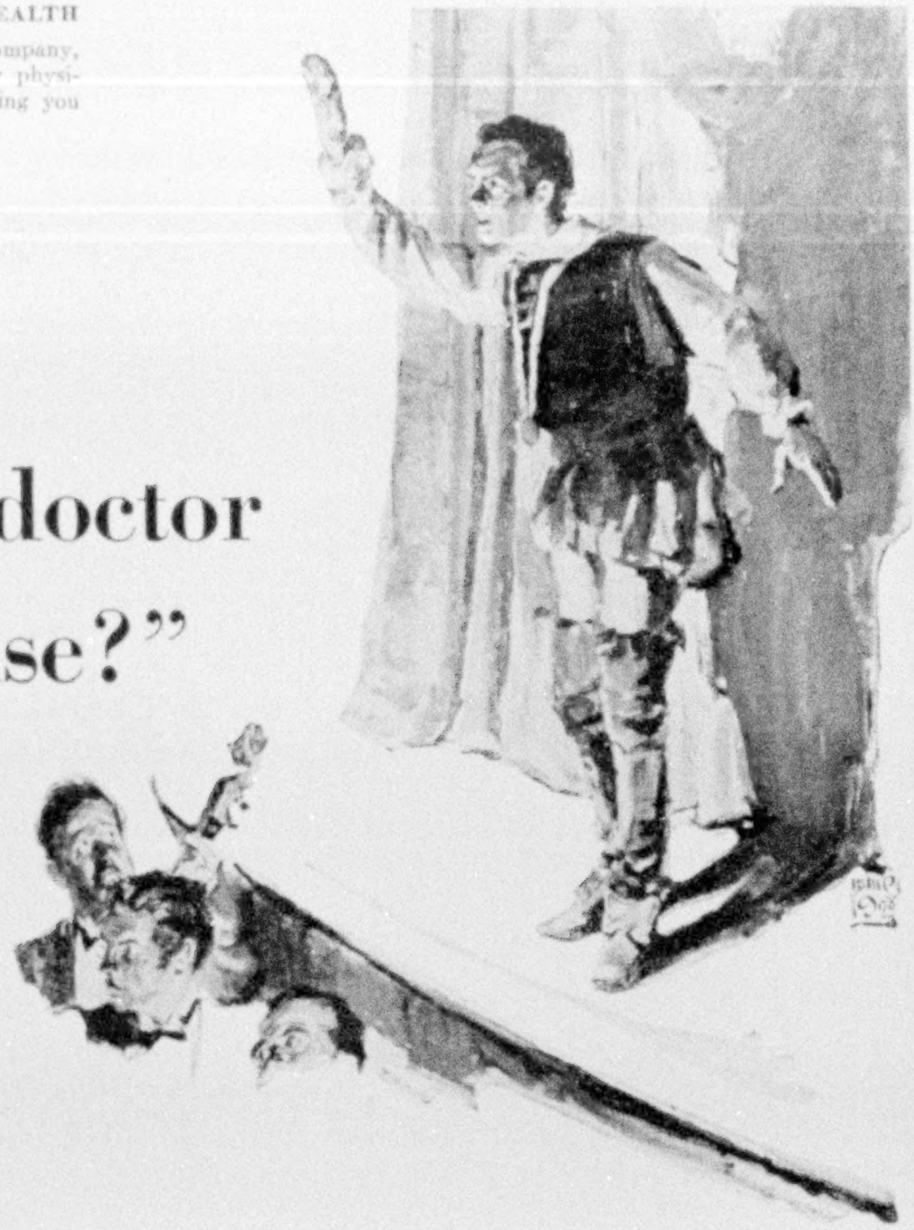


Five chassis — sixes and eights — prices ranging from $860 to $2485. Illustrated is Model 614, 5-passenger Sedan, $1295. (Wire wheels extra). All prices f. o. b. Detroit.

GRAHAM-PAIGE

BUILDING THE FORTRESSES OF HEALTH

One of a series of messages by Parke, Davis & Company, telling how the worker in medical science, your physician, and the maker of medicines are surrounding you with stronger health defenses year by year.



"Is there a doctor in the house?"

When the scene shifts, and "make-believe" suddenly gives way to grim earnest, when the cry, "Is there a doctor in the house?" tells of a sudden emergency—

Every eye in the hushed, expectant theatre then seeks the *one* man whose duty and privilege it is, even in leisure hours, to respond to such a summons and protect human life with trained judgment and skill.

But without dependable medicines in which he can place absolute confidence, the physician would be seriously handicapped.

Extreme caution—for your health's sake

To justify this confidence in medicines has been our guiding thought since our beginning in 1866.

Each of the more than 10,000 yearly incoming shipments of raw material to be used in Parke-Davis medicines must first of all be examined and tested by our own trained chemists, botanists, and pharmacologists. We accept nothing on the maker's word.

The identity and amount of every ingredient that goes into a Parke-Davis medicine is repeatedly checked and rechecked—never fewer than five times. The result of each test must say "Pure—Safe!" Otherwise the lot is destroyed.

' ' '

Some of the ways in which your physician is equipped today to *prevent* disease in your family are described in an interesting, non-technical booklet we have prepared, called *Fortresses of Health*. Send a post card for it to Parke, Davis & Company, Detroit, Mich.; Walkerville, Ontario; or London, England.

A PERSONAL NOTE

Here are a few Parke-Davis special preparations for your daily home use, for sale by your pharmacist—made with the same exacting care as Parke-Davis Medicines:

- Parke-Davis Shaving Cream
- Parke-Davis Orygene Mouth Wash
- Parke-Davis Neko (*Germicidal Soap*)
- Parke-Davis Hydrogen Peroxide

If you will ask your pharmacist about them, he will tell you that each needs no further recommendation than the simple statement: It is a Parke-Davis product.

PARKE, DAVIS & CO.

The world's largest makers of pharmaceutical and biological products

NEW PERFORMANCE-NEW STYLE
OLD DEPENDABILITY

In Dodge Brothers New Victory Six every feature that contributes to comfort, luxury, style and performance has been refined and improved.

Increased leg-room follows as a natural benefit of increased body-length. Generous additions to head-room and seat width are betterments that everyone will value. Likewise the increased size of the new Victory doors, the greater breadth of vision for all occupants.

Victory lines and colors are smarter than ever. The radiator is higher and more massive. Wide, one-piece fenders of improved design are distinctive beauty-assets.

True Dodge dependability is evident in every stress sustaining part. The extra sturdy chassis frame forms part of the body, replacing body sills and dust aprons. Body overhang and many excess pounds are eliminated, together with many sources of squeaks and rattles.

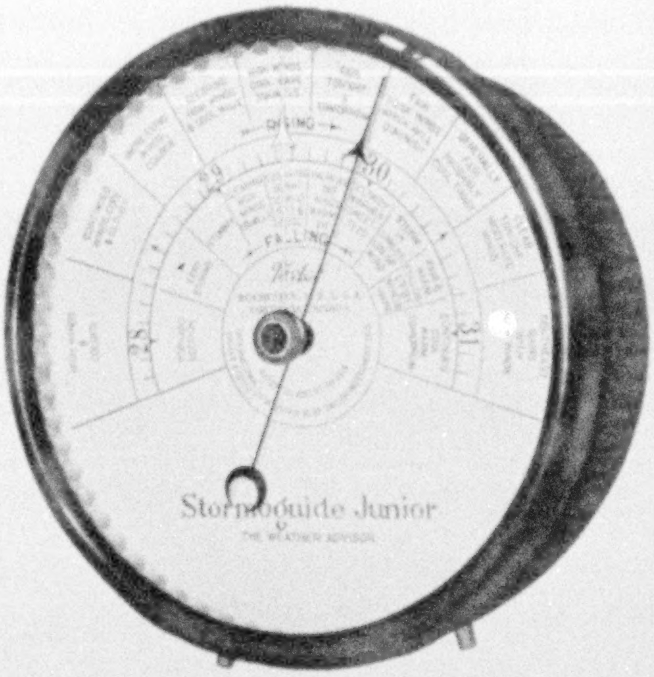
Every phase of Victory performance benefits by this unique construction. In particular, roadability and riding ease become nothing less than marvelous. You are invited to treat yourself to a Victory demonstration today.

PRICES—*Touring Car, $995; Roadster, $995; Coupe, $1045; 4-Door Sedan, $1095; DeLuxe Sedan, $1170; DeLuxe 4-Passenger Coupe, $1170; Sport Roadster, $1245; Sport Touring Car, $1245; Sport Sedan, $1295; f. o. b. Detroit.*

DODGE BROTHERS
NEW VICTORY SIX

Taylor Stormoguide

does not control the weather, but forecasts the kind of weather to prevail 12 to 24 hours hence and does so with great fidelity; enables you to plan your work or your pleasures, to organize every phase of your every-day life so you can take advantage of all kinds of weather, good or bad.



When you know the weather will be fine, you can arrange your outdoor activities; when you know it will be cold, rainy or disagreeable, you can plan accordingly. It adds a note of beauty and interest to your home.

Price, $10

The Taylor Stormoguide is a simplified Barometer. Its convenience in reading is as marked as the convenience of telling time by the clock as compared to the sun dial. (See weather forecasts in left margin.)

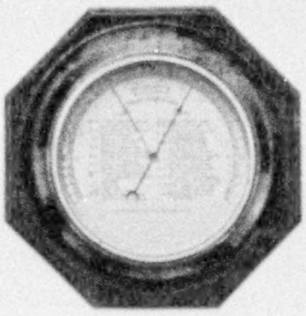
The Taylor Stormoguide (No. 2258) illustrated above is priced at $10. It has a 4½-inch white dial, mahogany finished bakelite case, glass crystal, good grade aneroid movement, supporting legs and hanger, adjustable for altitudes 0 to 2,500 feet.

Tycos Octagonal Stormoguide

No. 2253

A better grade instrument, with finer movement and handsome octagonal mahogany frame. Compensated for temperature. A very superior weather indicator.

PRICE $35.00



Get one of these Stormoguides illustrated, interpreters of the language of the weather, from your dealer today. If unable to secure from him, order direct; safe delivery guaranteed. Use coupon below, indicating preference.

Taylor Instrument Companies

ROCHESTER, N. Y., U. S. A.

Canadian Plant, Tycos Building, Toronto
Manufacturing Distributors in Great Britain, Short & Mason, Ltd., London

-C-O-U-P-O-N-

Taylor Instrument Companies, 95 Ames Street, Rochester, N. Y.

Please send me Taylor Stormoguide Junior ☐ Taylor Pendant Stormoguide ☐ Taylor Octagonal Stormoguide ☐ (check which). Enclosed is $.......... I understand you guarantee safe delivery.

Name .... City ....

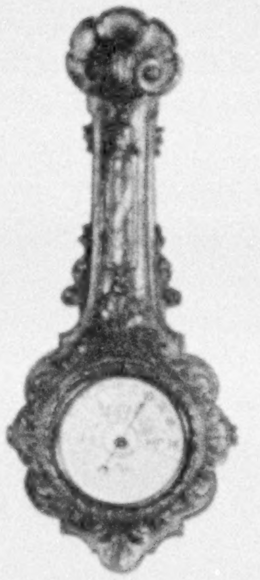
Address .... State ....

Dealer's Name ....

What the Stormoguide's Dial Tells at a Glance

Continued Cool . . . Warmer and Cloudy Tomorrow . . . Fair and Warmer, Followed by Wind and Rain . . . Storm Brewing in Direction of Winds . . . Cloudy and Warmer Followed by Unsettled . . . Unsettled, Increasing Winds and Warmer . . . Clear, Slight Squalls, Fair and Cooler Tomorrow . . . Clearing, High Winds, Accompanied by Squalls and Cooler . . . Stormy . . . Very Stormy . . . Usually Reaches This Section for Tornadoes . . . High Winds and Colder . . . Continued Winds, Followed by Cool and Cloudy . . . Increasing Winds, Followed by Colder . . . Clear with High Winds and Cool Wave . . . High Winds with Cool Wave, Preceded by Squalls . . . Fair with Fresh Winds Tonight and Tomorrow . . . Fair with Brisk Winds, Which Will Diminish . . . Generally Fair, Probably Cool Today with Variable Winds . . . Clear Tonight, Continued Cool with Moderate Winds . . . Southeast Rains with High Winds.

Taylor Pendant Stormoguide



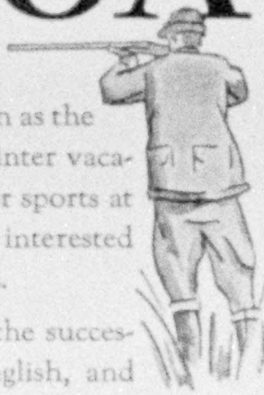
Wood case (8" x 19¾") finished in antique gold with 4½" dial and bezel to match; good grade movement; for altitudes 0 to 2,500 ft.

A novel and beautiful instrument, especially suitable for gift purposes. Combines beauty and utility. If your dealer cannot supply you, send coupon at the right.

Taylor Pendant Stormoguide No. 2420, $25.00

Have you ever seen America's most *interesting* and *historic* Winter playground?

The GULF COAST



THAT SECTION which skirts the deep blue waters of the Gulf of Mexico between the little Chattahoochee River in Western Florida and the great City of New Orleans is known as the "American Riviera." It is the ideal winter vacation land for those who enjoy outdoor sports at their very finest and for those who are interested in historic events, places, and legends.

Down from Indian days through the successive regimes of Spanish, French, English, and Confederate have come legends and historic facts which make this section a place of never-failing charm to the winter tourist. The spot on which Bienville first landed; the haunts and rendezvous of Pierre and Jean Lafitte, the French pirates; the home of Jefferson Davis, etc., etc., etc., these are some of the things you want to see, and here's one of the legends you'll enjoy:

"Just off the Mississippi Coast lies Cat Island, named for the cat-like appearing animals which were discovered by Duroux, the French explorer, and turned out to be what is known today as the American raccoon. Duroux, governor of the province, was a great tyrant, and as punishment for imaginary misdemeanors he had his men stripped and placed, in summer months, on this island where the sun, wind, and insects would torture them into madness. Mutineers rebelling against such treatment killed Duroux but were themselves broken on the wheel, or their bodies sawed in two, and in some instances buried alive. Legend has it that the Gulf winds which whistle around Cat Island are the wails of the lost souls of the pirates buried there."

Plan now to spend your winter holiday on the Gulf Coast, where hunting, fishing, golfing, motoring, horseback riding, and tennis may be enjoyed under perfect conditions. Moderate climate, splendid hotel accommodations, sunshine every day, and just cool enough to be invigorating.

Write today to R. D. Pusey, Gen. Pass. Agt., L. & N. R. R., Room 322-A, 9th & Broadway, Louisville, Ky., for descriptive booklet, and train schedules.

L&N

LOUISVILLE & NASHVILLE R·R

The Way to Remove Dingy Film from Lovely Teeth

Film forms on teeth and gives them that dull, "off-color" look. It fosters serious tooth and gum disorders

Dentists know the secret of dazzling white smiles. "Keep dull film off your teeth," they say. That's why the use of Pepsodent, the special film-removing dentifrice, is so widespread today.

WHAT robs teeth of ivory brightness? What makes them more discolored one time than another? And why, when looking their worst, do teeth decay more rapidly, gums grow sore and sensitive?

These questions dental science answers in three words—"film on teeth." What film is, how it acts, are told below. To combat it successfully where ordinary brushing fails, a *special film-removing* dentifrice is used, called Pepsodent.

Look for FILM this way

Run your tongue across the teeth. If you feel a slippery, slimy coating—that is film. An ever-forming, ever-present evil in your mouth.

It clings tightly to teeth and defies all ordinary ways of brushing. It gets into crevices and stays. It absorbs stains from food and smoking and turns teeth dull and gray. Germs by the myriad breed in film, and germs with tartar—a hardened film deposit—are the chief cause of pyorrhea.

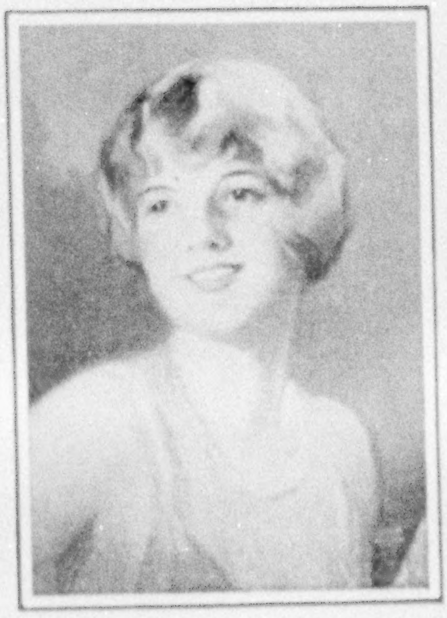
Film invites the acids of decay.

And it is remembered that before this special film-removing method the prevalence of dental troubles was alarmingly on the increase.

Now film removed new way

Film cannot resist brushing the way it did before. The new-found agents in Pepsodent curdle and loosen film. Then brushing takes it off.

This is the greatest step made in a half century's study of tooth cleaning methods. Its results are seen on every hand.



Fights decay—firms gums

Other new-day agents in Pepsodent increase the alkalinity of saliva. They neutralize the acids which form from starch in foods and cause decay. Its use aids in firming gums.

Thus, Pepsodent answers fully these requirements of the dental profession of today. That's why in 58 nations its acceptance among dentists is universal.

Give Pepsodent 10 days

If teeth are dull, "off color," that is film. If you are prone to tooth and gum disorders, that may be film also. Remove this film for a few days and see teeth lighten. Between your dentist and Pepsodent you obtain the ultimate in tooth and gum care as modern dental science knows it.

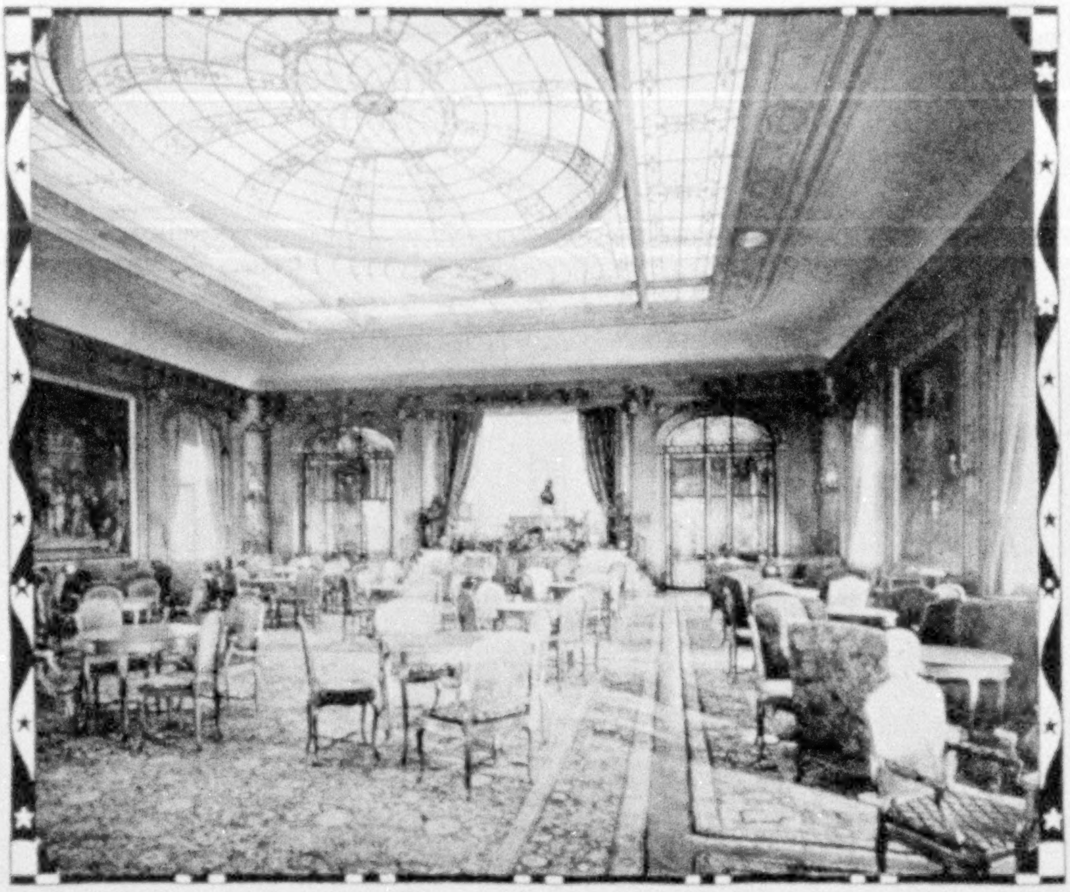
Get it wherever dentifrices are sold, or write to nearest address below for a free 10-day tube.

The Pepsodent Co., 1104 S. Wabash Avenue, Chicago, Ill., U. S. A.; 191 George St., *Toronto* 2, Ont., Can.; 42 Southwark Bridge Road, *London*, S. E. 1, Eng.; (Australia), Ltd., 72 Wentworth Ave., *Sydney*, N.S.W.

Pepsodent

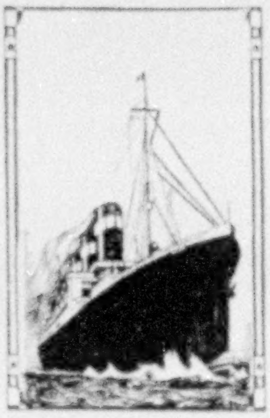
PAT. OFF.

The Quality Dentifrice—Removes Film from Teeth



Social Hall—S. S. Leviathan

American ships for your greater enjoyment



THERE are six famous ships that cross the Atlantic Ocean, flying the American flag. They are the *S. S. Leviathan, S. S. George Washington, S. S. America, S. S. Republic, S. S. President Harding,* and *S. S. President Roosevelt.* It is their business to carry passengers to Europe and back safely, with the maximum comfort and the minimum delay. They do this in a manner that has won them the good will of travelers and the respect of maritime experts all over the world.

The delicious food that is served at every meal, the refined luxury and quiet taste that make all the rooms on board so attractive, and good honest American service persuade most experienced travelers to sail on American ships. Their example is well worth following.

YOUR STEAMSHIP AGENT WILL GLADLY GIVE YOU FULL DETAILS ABOUT RATES, SAILINGS, AND PORTS OF CALL.

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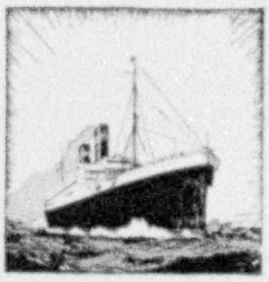
AWAY FROM WINTER

Newest Travel Offerings *of the American Express* ~



CRUISES—Ninety will leave our ports this winter—going Around the World, to the Mediterranean, West Indies, South America. Short cruises of two weeks... long ones up to five months. To help you make your selection, the American Express have made a brief compilation of them all. "Winter Cruises" is the booklet to ask for. It tells how American Express travel experts will advise you with regard to ships, locations of staterooms, baths, gymnasiums; countries to be visited—and you can book through them without further shopping. Check Booklet No. 1.

THE *MEDITERRANEAN*—There's magic about Egypt and the Mediterranean in winter. Think of spending Christmas time in Bethlehem. Then Italy in the New Year. Sophisticated Cairo... barbaric Algeria! Under the American Express Independent travel plan, you merely think of where you wish to go... how long you can be away... how much you wish to spend... and the American Express arrange the entire trip to the smallest detail. No travel worries, because tickets, reservations, hotels, etc., are all arranged before you leave. All you do is enjoy yourself. Uniformed representatives in foreign lands are yours to command. Check Booklet No. 2. *The American Express are general agents for The Anglo-American Nile and Tourist Co.*

EUROPE, 1929, TOURS WITH ESCORT—The American Express Escorted Tour program for 1929 is the finest yet devised. Splendid new itineraries with many features never before included on European tours. Arranged by experts who know Europe like a book. (a) Quality Tours, with finest ships and hotels and every luxury throughout. (b) Popular Tours at Moderate Cost. (c) Vacation Tours at limited expense. They comprise one of the most unusual range ever offered so far in advance. Check Booklet No. 3 and spend an interesting evening enjoying in advance your next year's European journey.

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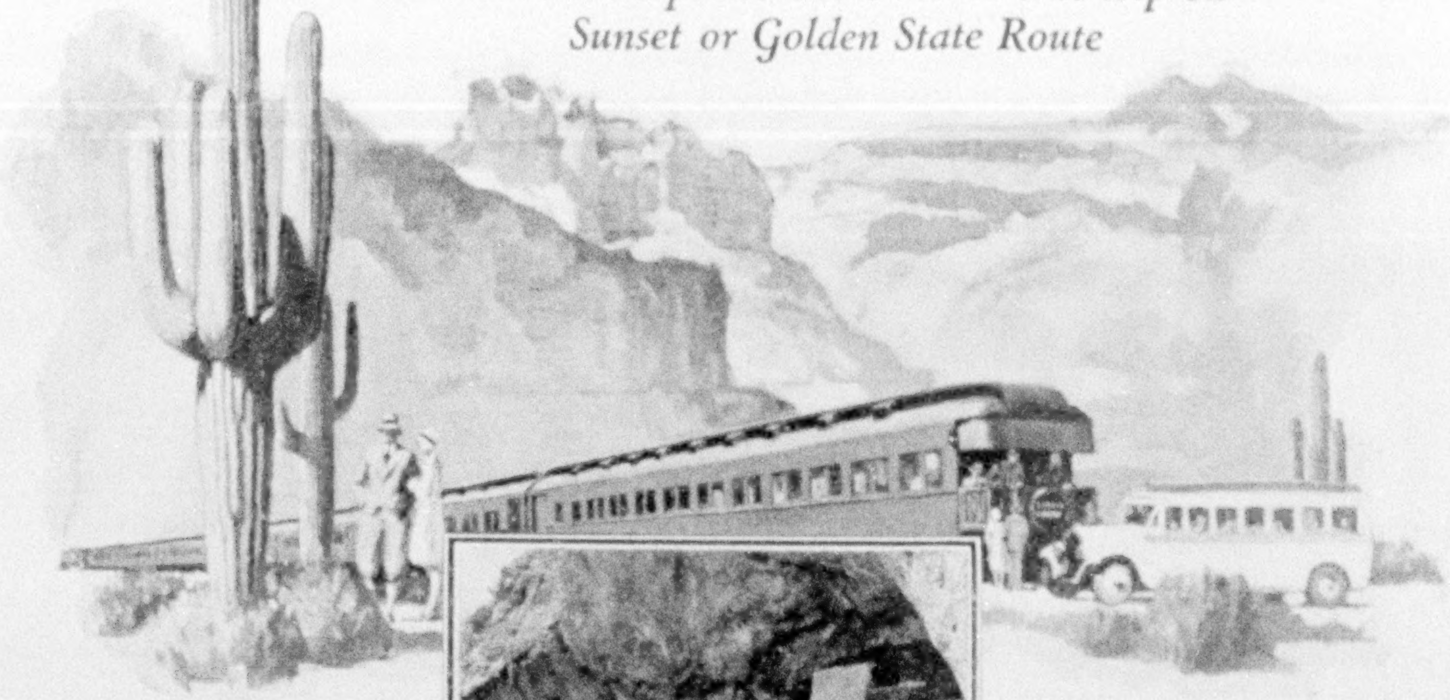
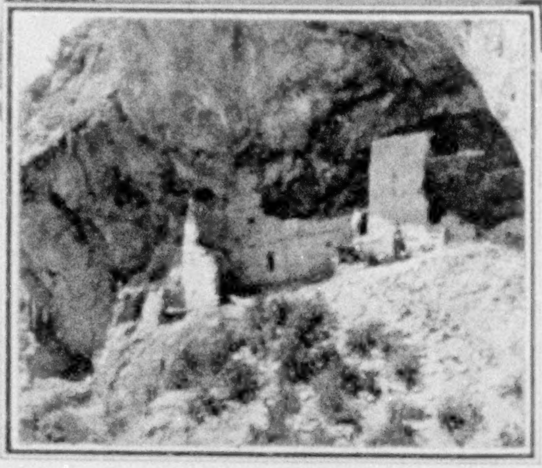
Into the Land of Vanished Peoples

Take this Apache Trail motor side trip on Sunset or Golden State Route





A prehistoric race occupied Tonto Cliff Dwellings not less than 1000 years ago. The vanished peoples understood irrigation, spinning and weaving, and used artificial lighting.

Between Globe and Phoenix, Arizona, on either SUNSET or GOLDEN STATE ROUTES of Southern Pacific, is a fascinating one-day motor side trip—The Apache Trail highway.

Cushion tires will bear you straight into the land of a people whose very existence, save for the crumbling relics, is legendary.

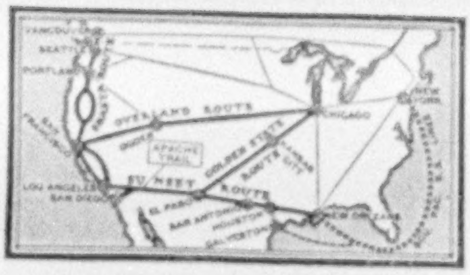
Yet those people have left cliff dwellings, adobe castles, and strange forts deep in the mysterious desert, in a setting of weird beauty. Their remarkable civilization flourished long before Columbus discovered America. It was already in ruins when Coronado's Spaniards of the sixteenth century rode by.

Along this Apache Trail, in a region where Nature has upset all her paint-pots, you will see Roosevelt Dam and other gigantic irrigation works. Beyond lie Phoenix, Salt River Valley and Imperial Valley.

Sunset Route—New York to California via New Orleans

SUNSET ROUTE begins at New York, where comfortable Southern Pacific steamships will take you to New Orleans—"100 golden hours at sea." Or you can journey there by rail. Thence across Louisiana, Texas and the Spanish-American southwest. At El Paso, SUNSET ROUTE effects juncture with GOLDEN STATE ROUTE from Chicago. El Paso is but 5 minutes by trolley from Juarez in Old Mexico.

For your journey from California, Southern Pacific offers choice of four routes. Thus you can go one way, return another, and see the whole Pacific Coast at minimum outlay. Only Southern Pacific offers this choice.



Southern Pacific

Four Great Routes

Send your name and address at once to E. W. CLAPP, traffic manager, Dept. C-10, 310 S. Michigan Blvd., Chicago, for free booklets with animated maps in full colors, "*How Best to See the Pacific Coast*" and "*Apache Trail.*"

Play THIS WINTER

Refresh your body and mind under Southern California's healing semi-tropic sunshine!

From near-by Palos Verdes hills stretches a magnificent panorama of blue ocean, mountains and cities.

EVERY good reason your physician, business associates and friends can find to draft you for a Southern California vacation this winter will be answered one hundred per cent by better health and a fresher mind when you return home next spring! Persuade yourself to come to this land where flowers bloom gorgeously, birds sing and oranges ripen a mile beneath snow-capped peaks!

Wide boulevards lead along the placid blue Pacific to Old Spanish Missions and to every other interest spot. Sixty-five ever-green golf courses are within easy distance.

And, the winter desert! Here may prove your greatest thrill. Drive through Owens Valley in summer-like sunshine and see a blizzard batter itself against bleak Mt. Whitney (14,501 ft.) Over a safe road lies Death Valley! Palm Springs is an easy motor trip.

Metropolis of the Pacific Coast, Los Angeles, offers all the thrills of a great modern city. Los Angeles County's agricultural products approximate $95,000,000; oil fields are valued at a billion dollars!

Mail the coupon for "Southern California Through the Camera," a new and *authentic photographic book* that pictures winter and summer Southern California.

Southern California

"A trip abroad in your own America"

All-Year Club of Southern California, Dept. 11-E,
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Please send me your free booklet, "Southern California Through the Camera." Also booklets telling especially of the attractions and opportunities in the counties which I have checked.

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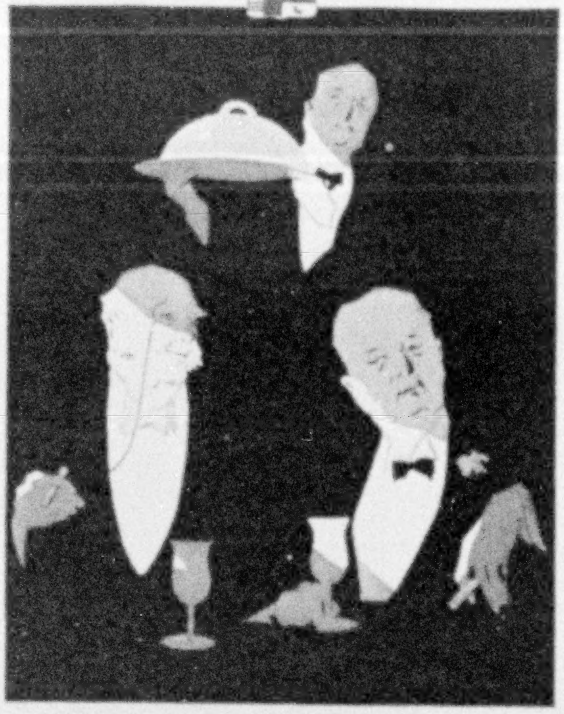
G O O D N I G H T



The Book-Cadillac Hotel

ON WASHINGTON BOULEVARD
THE STREET OF FINE SHOPS

D E T R O I T

Good night

Just before bed time, hours after dinner time, did you ever sit and study the guests at the Book-Cadillac Hotel? The lobby is a crossroads with a thousand itinerants coming, going, changing, and you measure them with a wholesome rule. Old roaring lion hunters tell tales to men who sit and think in terms of ten thousand cars. Music from the Blue Room, faint as a valley wind, beckons youths and sweeter maidens to supper and dance. Younger salesmen dabble in dreams and rub shoulders with industry's captains. Midnight comes and early morning hours find late counsellors and revellers hurrying to pleasant rooms to restful beds as soft and as sleepy as a winter's night. The day is done. The city tires and quiets. A thousand guests are asleep. *Good night.* See you soon.

THE BOOK-CADILLAC HOTEL

Carl M. Snyder, Managing Director

DETROIT

The winter wanderer's friend abroad

AT the busy seaports in foreign lands; at foreign railway stations and frontier points, the winter traveler will find a friend.

He wears the uniform of the American Express. He is stationed at most of the principal points where tourists gather, to make travel easier and more comfortable. Wherever and whenever assistance is needed—with baggage, passports, tickets, reservations, accommodations, etc., he is there, ready and smiling.

This friend is part of the Helpful Hand of American Express Service to which all travelers are automatically entitled when they purchase American Express Travelers Cheques. Besides introducing the traveler to this personal service, these sky-blue Travelers Cheques safeguard money against theft or loss and are spendable everywhere.

Issued in denominations of
$10, $20, $50 and $100
Cost 75c *for each* $100

Sold by 22,000 Banks, American Express and American Railway Express offices. When you are traveling this winter the Helpful Hand will be extended to you to the fullest extent if you carry

Safe anywhere
Spendable everywhere

AMERICAN
EXPRESS
Travelers Cheques

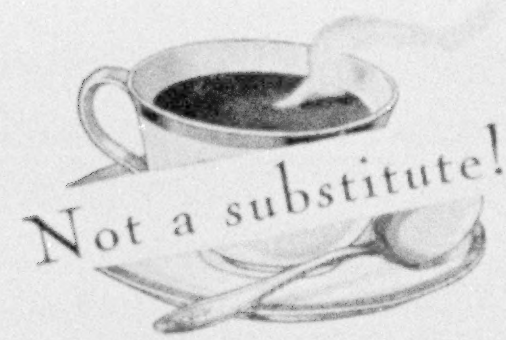
Steamship tickets, hotel reservations, itineraries, cruises and tours planned and booked to any part of the world by the American Express Travel Department

ALL AMERICAN EXPRESS CHEQUES ARE BLUE

A common-sense advertisement

You can get real coffee that lets you sleep

—that tastes the same
. . . brings the same friendly
cheer as the finest coffee



EACH year thousands try Kaffee Hag Coffee, for the first time, because it is free of caffeine. But they continue to delight in using it just because it is such wonderful coffee.

The flavor you enjoy in Kaffee Hag Coffee is the result of blending several of the finest coffees in the world. And before roasting, it has 97% of the caffeine removed—the drug that upsets sleep. That is why Kaffee Hag Coffee does not affect nerves nor keep you awake.

Try this wonderful coffee yourself. You can't tell the caffeine is gone. Not from tasting. Serve it for dinner or for an evening party. You can drink a strong cup of Kaffee Hag Coffee even at midnight—without fear of sleeplessness.

People say good-bye to substitutes with their first cup of Kaffee Hag Coffee. And if you've had misgivings about coffee, you'll then and there forget them. For you will have found real coffee that you can enjoy without regret.

Order a fresh-sealed can of Kellogg's* Kaffee Hag Coffee from your dealer. Ground or in the bean. Also served at hotels, restaurants, on diners. Mail the coupon and we will send you a generous trial can.

KAFFEE HAG CORPORATION
1720 Davenport Ave., Cleveland, Ohio

Please send me, postpaid, enough Kaffee Hag to make ten cups of good coffee. I enclose ten cents (stamps or coin).

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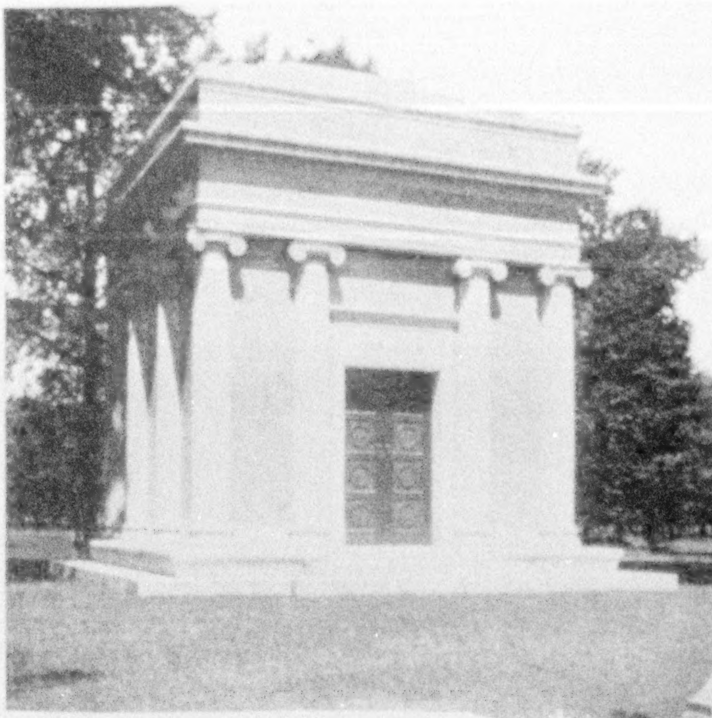
* Now a *Kellogg* product

KAFFEE HAG COFFEE

The coffee that lets you sleep



IT would be difficult to imagine a more striking family Mausoleum than that here illustrated. The soft and well-blended tints of our Stony Creek Granite are reflected with unmatched beauty in the panels and plain portions of this structure. The columns and carved portions are treated in the dull finish to give the pleasing contrast required to emphasize the architectural beauty.

Would you appreciate seeing many additional illustrations of our work? If so, write for "Modern Memorial Art."

Above: The Van Dusen Mausoleum, entirely of Stony Creek Granite, was erected in Woodlawn Cemetery, Detroit.

At right: The Neusteter · Levie tribute is in Denver, Colorado.

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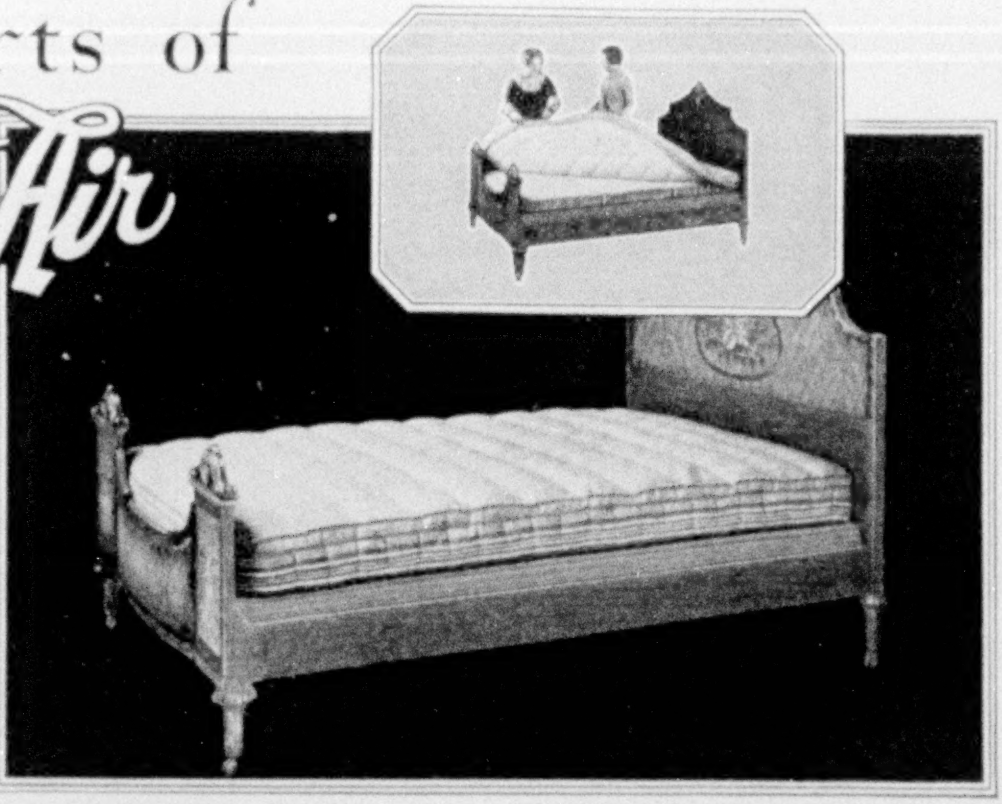
For a limited time, we shall gladly send, prepaid, a New Model Acousticon to your home for a ten-day demonstration without charge or obligation of any kind, for we want you to know the merits of this wonderful instrument before you invest one penny in it. . . . Merely send your name and address on a postal card today to Dept. 520, The Acousticon, 220 West 42nd Street, New York, N. Y.

You'll never tolerate your old mattress once you know the comforts of

Spring-Air

TRADE MARK REGISTERED



Spring-Air is a flexible mattress of lasting beauty, consisting of a light pad and separate all-steel cushions in sanitary ticking covers. An 8-year-old child can carry it upstairs.

A new thrill awaits you—the thrill that comes from experiencing an entirely new sensation in sleep comfort. A mattress has finally been perfected that makes you sleep completely relaxed. It takes the form of your body, supporting you with an airy buoyancy, cushioning you with a downy softness. Never will you know the luxury of such comfort until you have actually experienced it.

This new mattress is called "Spring-Air". So interesting is its construction, so far advanced are its features, that a booklet, "Sleeping Relaxed" has been specially written to give all the details. Send for it—today, before you sleep another night on your old mattress.

Spring-Air is so light in weight, so easy to handle that to carry it upstairs or down is merely child's play! So flexible that you can roll it up under your arm! So sanitary that you can remove the covers as easily as you do a pillow slip! So durable that it is guaranteed for 20 years—five times the useful life of an ordinary good mattress!

Think of the superior comfort this mattress gives—and then consider that you can buy Spring-Air direct—for less than the price of a common mattress!

Spring-Air asks only for a trial—the same kind of a trial that in two years has led over 600 of the leading hotels and hospitals to enthusiastically laud its many benefits. Not a penny do we want you to pay until you have slept for ten nights on the mattress praised by America's foremost sleep critics—the mattress about which Mr. Augustus Nulle, Managing Director of New York's Waldorf-Astoria, voluntarily writes:

"After using Spring-Air on my own bed for a number of months, I am glad to say that I consider it more than is claimed for it."

Because Spring-Air is the most costly of mattresses to manufacture, leading stores have had to sell it for upwards of $60.00. Now you can buy it direct just like the hotels and hospitals do for $38.50 ($41.50 west of Denver)—a saving of more than $20.00. Even an ordinary mattress costs more. No longer is Spring-Air luxury reserved for the wealthy few—now everyone can enjoy its marvelous comfort.

To deny yourself the comfort and convenience of Spring-Air is to miss the joy and benefit of relaxed sleep. If only you could awake from the sleep that washes away sallowness, keeps the sparkle in your eyes, puts the spring in your step, gives you the poise that is true charm—you'd never, never tolerate your old mattress for another night. Let the free booklet, "Sleeping Relaxed" give you all the facts. Mail the coupon now.

Charm — A Gift of

keep it: Spring Air

KARR COMPANY
HOLLAND ❦ MICHIGAN ❦ USA

A Statement by the Inventor

Spring-Air is the outgrowth of my life-long specializing in the improvement of cushions and bedding. Over forty-five years of experimental labor preceded its perfection. More than thirty patents have been granted to me in the course of its development. Now that my life's ambition is achieved I am happy in the thought that millions will eventually know the joy and benefit of relaxed sleep.

—*Francis Karr*

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KARR COMPANY, Holland, Michigan

Gentlemen: It ought to be worth a great deal to me to discover how I can always enjoy the correct sleep diet. So please send me your booklet, "Sleeping Relaxed"—without obligation, of course.

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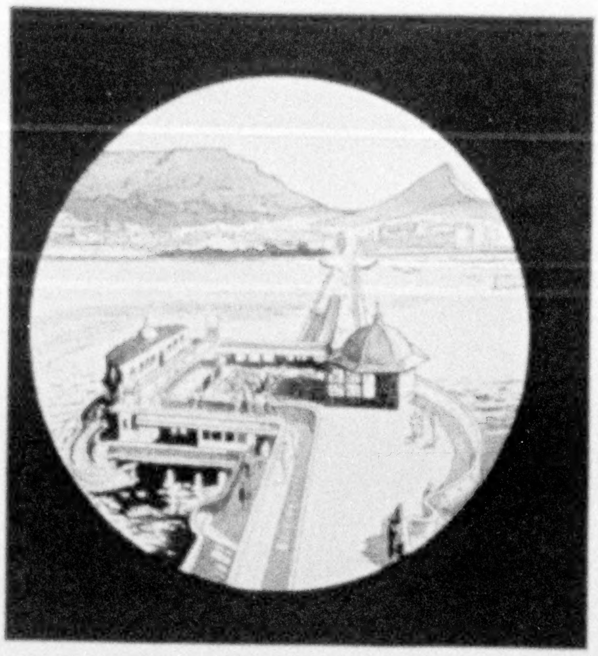
You Can't Buy Bed-Comfort by the Pound"

N 1128



From Your First Glimpse

of the glorious Cape in the pink glow of the morning sun, the golden floodlight of noon or the silver radiance of moonlight until you bid a fond farewell to

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you will be charmed, mystified and thrilled. It is a land of strange contrasts and inspiring places of romance, mystery and beauty. A land of invigorating climate wherein age renews its youth. When you have seen South Africa you have traveled, and not until then.

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You travel comfortably, rest in modern hotels, enjoy up-to-date theaters, and also see things that can be found in no other place in the world.

Be Sure to Enjoy

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South Africa

Before you plan your next trip be sure to write for Booklet OD-1 and fully illustrated travel literature to

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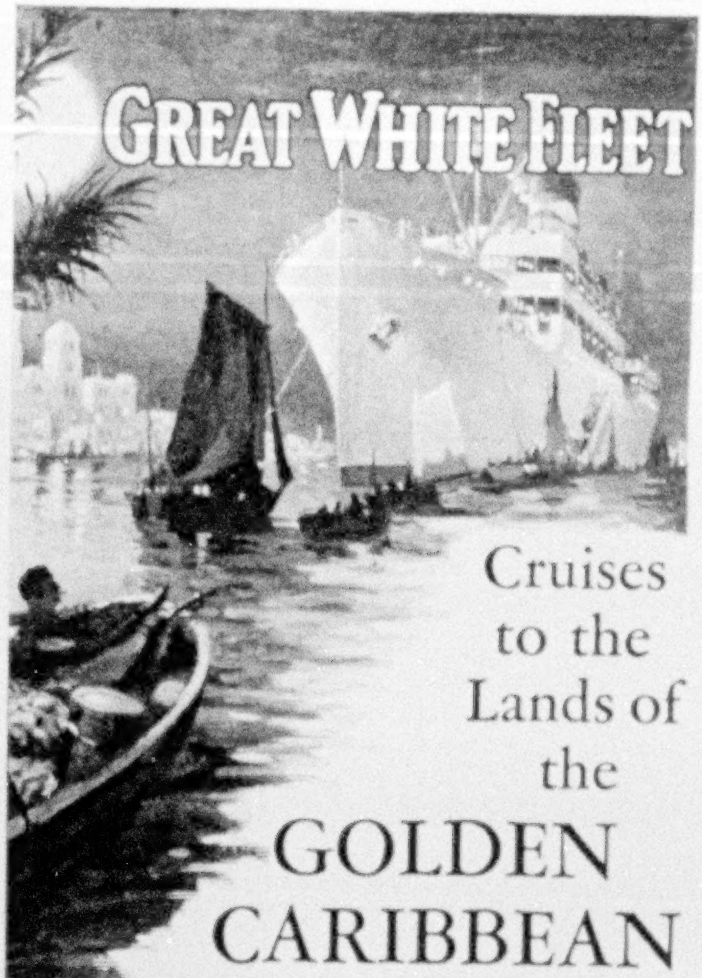

Cruises to the Lands of the

GOLDEN CARIBBEAN

EXPERIENCE counts in planning a cruise to the Golden Caribbean and officers and men of Great White Fleet ships are experienced for they have been cruising in Tropical waters for the last quarter of a century.

That is the reason why tourists enjoy the charm of the "Spanish Main" when traveling on these beautiful vessels built especially for service in the Tropics. Wide decks on which to dance and play. All outside rooms, good beds, excellent food and the fine degree of personal service that makes sea travel a luxury.

Great White Fleet ships leave NEW YORK and NEW ORLEANS twice every week on cruises lasting from 9 to 24 days. Only first class passengers are carried and all shore motor trips, hotel and railway accommodations, etc., are included in the price you pay for your ticket, emphasizing the claim of the Great White Fleet that "every passenger is a guest."

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LUMBER SAVES 37% FOR MOTION PICTURE CO. *in Studio Stages . .*

Gigantic all-wood trusses in famous Picture Studio prove dramatic test of lumber. Consultation service great help in engineering project

COME behind the scenes for a moment, and look at one of the problems of a motion picture executive.

He needed additional stages. Two new studios were wanted immediately.

The question was . . . how to build them? What type of material to use? Which was the most economical?

Engineers of a famous construction company and technical men of the National Lumber Manufacturers Association were called in consultation.

They decided that wood was the most practical material . . . because of the scaffolding and other scenic structures that are nailed to the trusses while pictures are being filmed.

So a way was found to build gigantic all-wood trusses.

And with this special type of all-wood construction great economies were effected. It actually cost 37% less than any other type of truss of the same strength.

No wonder most of the great motion picture companies now specify wood when studios are being designed and built.

This Service Can Help You

To all manufacturers, shippers, carriers, builders and other actual or potential users of wood, a unique service is now offered.

It's a new type of consulting service, sponsored and developed by the National Lumber Manufacturers Association and 13 of its affiliated Associations.

It places at your disposal a widely distributed group of trained men . . . men long schooled in the use of lumber and in wood technology.

These consultants may work out production economies, or evolve more satisfactory methods of shipping your goods. Wherever lumber enters your business . . . these lumber authorities can help you. Isn't there some building or other problem . . . some question . . . that you would like to have some help on? Mail coupon for interesting booklet describing this special service, and information on American standard lumber from America's best mills.

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

CERTIFIED BY CENTURIES
. . WOOD . .
Use it — Nature renews it

NLMA

THESE 13 great manufacturer's associations are affiliated with the National Association.

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- California White & Sugar Pine Manufacturers Association, San Francisco, Calif.
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- North Carolina Pine Association, Norfolk, Va.
- Northern Hemlock & Hardwood Manufacturers Association, Oshkosh, Wis.
- Northern Pine Manufacturers Association, Minneapolis, Minn.
- Southern Cypress Manufacturers Association, Jacksonville Fla.
- Southern Pine Association, New Orleans, La.
- West Coast Lumbermen's Association, (Douglas fir) Seattle, Wash.
- Western Pine Manufacturers Association, Portland, Ore.
- National Association of Wooden Box Manufacturers, Chicago, Ill.
- British Columbia Lumber and Shingle Manufacturers Association, Vancouver, B. C.
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National Lumber Manufacturers Association,
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Please send me, Free, "100 Lumber Consultants at your Service."

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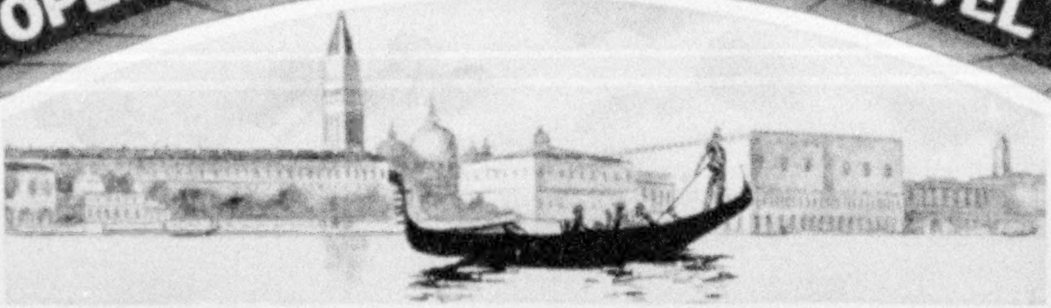

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James Boring's Fourth Annual Mediterranean Cruise sails from New York Feb. 14th, 1929, on the specially chartered White Star Line S.S. "Calgaric". The entire cruise, under one American management, enables you to enjoy 68 delightful days on the Mediterranean, with stops at 23 ports and four principal islands. Rates, first class only, $740 to $1675, cover every necessary expense, including stop-over steamship tickets.

[James Boring's Fourth Cruise to the West Indies and Panama sails from New York Jan. 23, 1929 for 19 days. Rates, $275 up.]

Inquire of your local steamship agent, or send for booklet. (If student, address Dept. S)

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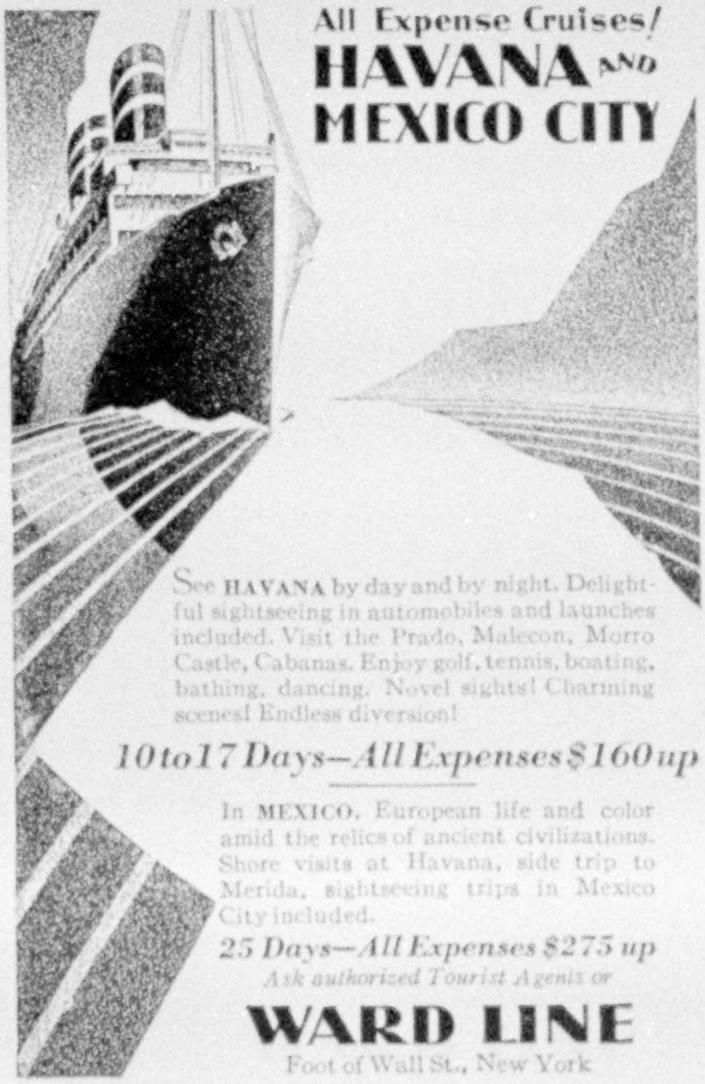
All Expense Cruises!
HAVANA AND MEXICO CITY



See **HAVANA** by day and by night. Delightful sightseeing in automobiles and launches included. Visit the Prado, Malecon, Morro Castle, Cabanas. Enjoy golf, tennis, boating, bathing, dancing. Novel sights! Charming scenes! Endless diversion!

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Ask authorized Tourist Agents or

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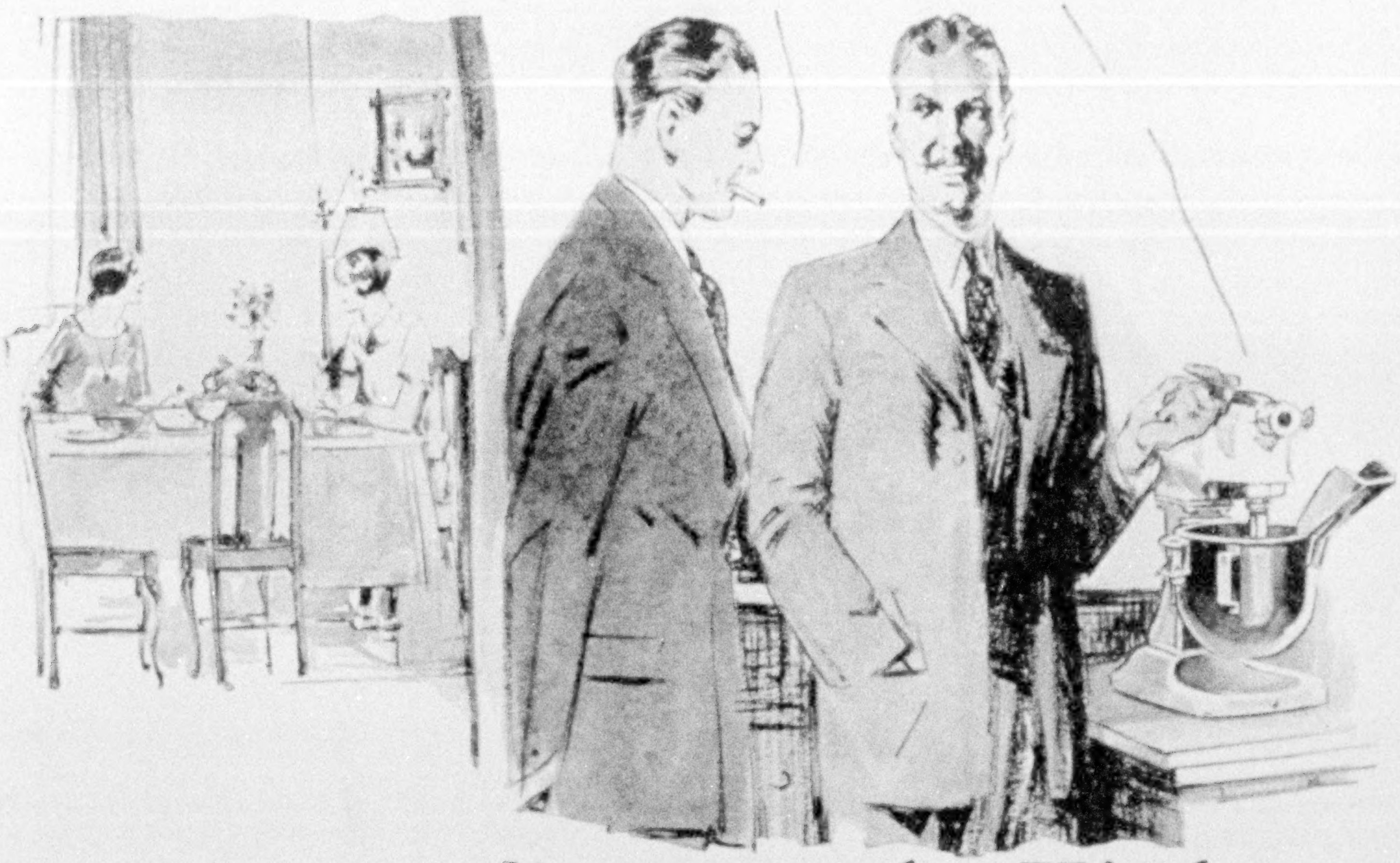

The Men Adjourn to the Kitchen—

One of them tells why he has given his wife a KitchenAid

This is his story: On the morning after "one of those evenings" when his wife had to prepare dinner for unexpected guests, suddenly he thought, "I've got it pretty easy, what with telephones, typewriters, dictaphones and other helpers. There must be *something* that will make things run smoothly and with a minimum of effort, for my wife, too." KitchenAid solved his problem.

Today, in *thousands* of better homes, this Electric Maid is doing all the hundred-and-one food-preparing tasks, better and more quickly than by hand—and with *none* of the exhausting labor . . . It prepares a cake for the oven in three minutes—whips potatoes to a snowy fluffiness in one minute—mixes velvety smooth mayonnaise . . . It mixes—mashes—beats—whips—creams—strains—sieves—grinds—shreds—chops—slices . . . Wives *appreciate* KitchenAid, even though they entrust the kitchen duties to others.

Recently a *new* model KitchenAid, at a substantially *lower price*, has been introduced. We'll be glad to send you its complete, fascinating story, and, if you desire, full details of our unusually liberal, Household Budget Payment Plan.

The KitchenAid Manufacturing Company
301 Olive Street Troy, Ohio

Sales agencies in principal cities. Consult your telephone directory.

KitchenAid
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Electrical Food Preparer for the Home

The KitchenAid Mfg. Co.
301 Olive St., Troy, O.

I am interested in knowing more about KitchenAid. Please send your booklet to:

Name ____________________

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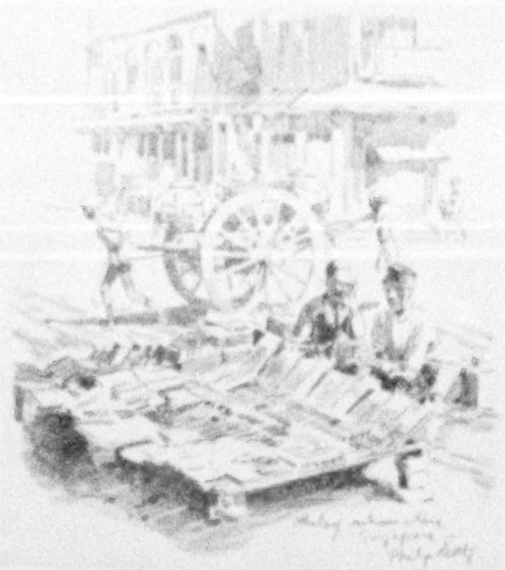
(102)



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You plan your own itineray. At all 22 ports you have ample time for shopping and sightseeing.

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Go Round the World on one ship in 110 days. Or take the full two years that your ticket permits.

From Los Angeles, San Francisco, Honolulu, Yokohama, Kobe, Shanghai and Hong Kong, a liner sails every week. From Manila, Singapore, Penang, Colombo, Suez, Port Said, Alexandria, Naples, Genoa and Marseilles there is a sailing every fortnight.

Fares including your transportation Round the World, meals and accommodations aboard ship are as low as $1000 and $1250.

Sail aboard a magnificent President Liner. Luxurious outside rooms with beds, not berths. Broad decks, enclosed in glass. Beautifully appointed public rooms. Cuisine par excellence.

Fortnightly sailings from Seattle for the Orient and Round the World. Fortnightly sailings from New York, for the Orient and Round the World via Havana, Panama and California.

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11 BIS RUE SCRIBE, PARIS, FRANCE
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Follow the sunshine straight to California. Take the Los Angeles Limited—where skilled, courteous attendants anticipate your wishes. Your journey is like a sojourn in a modern hotel on flying wheels, over a route of scenic grandeur and romantic history.

Train features: Barber, bath, valet, maid, manicure. Observation-club cars, the finest of dining cars all the way, the best type of modern Pullman cars. Only 63 hours en route; leaves Chicago at 8:10 p. m. daily; ten dollars extra fare.

Seven other fine trains to California from Chicago and St. Louis

Including the 63-hour extra fare San Francisco Overland Limited; Gold Coast Limited (open-top observation car in California during winter season); Continental Limited; Pacific Limited; Pacific Coast Limited.

Here's a new interesting side trip en route to Southern California

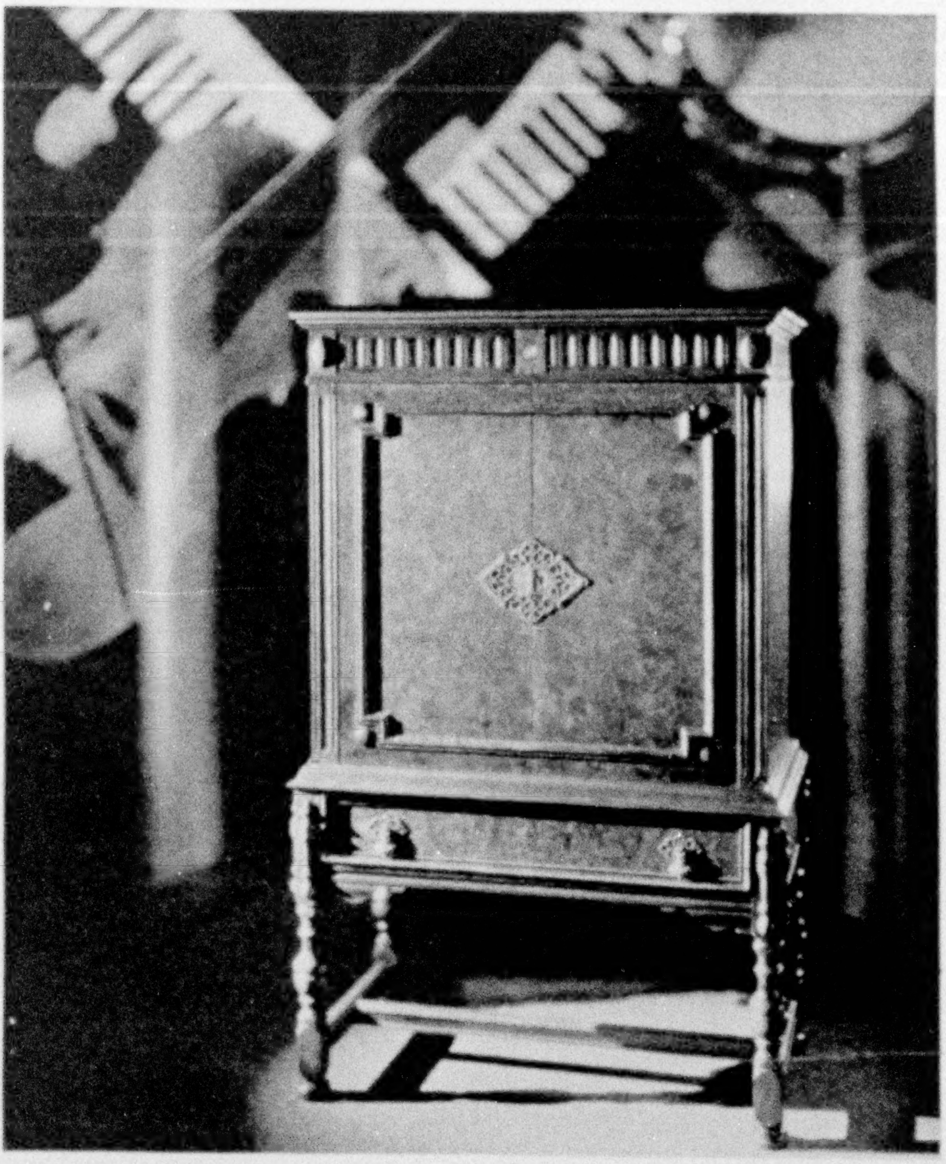
See magnificent, mysterious Death Valley. Delightful two-day rail-motor side trips, starting November 4th, cost only $35.50.

For booklets describing California, Death Valley and Union Pacific service:

Address nearest representative or General Passenger Agent, Dept. 251, at Omaha, Nebraska

UNION PACIFIC

THE OVERLAND ROUTE



Cabinets by
BERKEY & GAY

RADIO *or recorded music at the turn of a switch . . .* SYMPHION *through an entirely new principle converts the ordinary 60-cycle AC house current to 3,000,000 cycles . . . This makes possible the use of the* 201A *tube with its far wider range of frequencies and excludes heterodyning and hum . . . Result: every tone is reproduced — as it is played.*

A new World of Music

A NEW *music instrument, the* BALKITE SYMPHION, *plays both broadcasted and recorded music tonally complete, with the long-sought overtones and subnotes.*

Both the phonograph and the radio have captured the general public. But there has always been a special public — musicians and music connoisseurs — who have not been satisfied.

Their attitude has been that reproduced music leaves out certain notes in the upper and lower register, and esthetically important overtones.

This is the attitude of extreme fastidiousness. Yet this attitude has constituted a challenge to radio and its marvelous achievement.

The Balkite Symphion meets this challenge. It is radio for the musician and the music connoisseur. It is tonally complete, and with the long-sought subnotes and overtones. The same thing is true of the Symphion playing recorded music or music over the air; absolute fidelity.

Ask your dealer to play Schubert's Unfinished Symphony for you — its purity of melodic form requires perfect fidelity in reproduction; you will find that the Symphion gives this perfect fidelity. Then ask for music over the air. It will be played in the same tonally complete manner.

The cabinets are by Berkey & Gay. Let your dealer demonstrate their beauty in your home, as well as the marvellous quality of Symphion music. Fansteel Products Company, Inc., North Chicago, Ill.

FANSTEEL
Balkite Symphion

Rock Island

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GOLDEN STATE LIMITED *to California*

across the Solarium of America

¶Only main line from Chicago through Tucson, Chandler, Phoenix, Indio, Palm Springs and other attractive resorts of the picturesque Southwest—where luxurious hotels, comfortable ranch houses and playgrounds of every description offer rest and recreation in a land steeped in sunshine and color.

¶Direct low altitude way. 63 hours to Los Angeles. Shortest and quickest to San Diego.

¶Rock Island-Southern Pacific through service includes other fine fast trains, notably the Apache—same delightful route.

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For further information, mail this coupon 456

Rock Island Vacation Travel Service Bureau,
725 La Salle St. Station, Chicago, Ill.

Please send me booklets about California and scenes en route; also full information regarding train service via Golden State Route.

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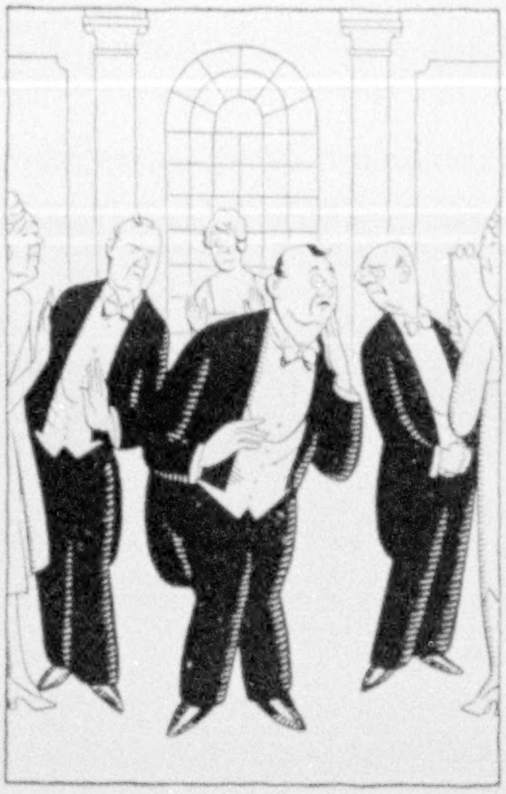


"W—W—What's the Matter?"

UNFORTUNATE is he who sallies forth in formal attire with an error glaring from his vest or bosom. Unconciously he becomes the cynosure of cynical eyes. He is unaware that the only *correct* form is *matched* links, studs and vest buttons. One style of stud and another style of vest button is almost pathetic to a lot of people who know. Furthermore, for full dress, convention prescribes white mother-of-pearl; for tuxedo—either black enamel or smoked mother-of-pearl. ¶Krementz Evening Jewelry for full dress and tuxedo is sold in sets that are socially correct. Studs, vest buttons and links are *matched*, as they must be. Designs are good-looking and stylish; the quality, that which has made the name "Krementz" synonomous with the best in its field. ¶At your jeweler's.

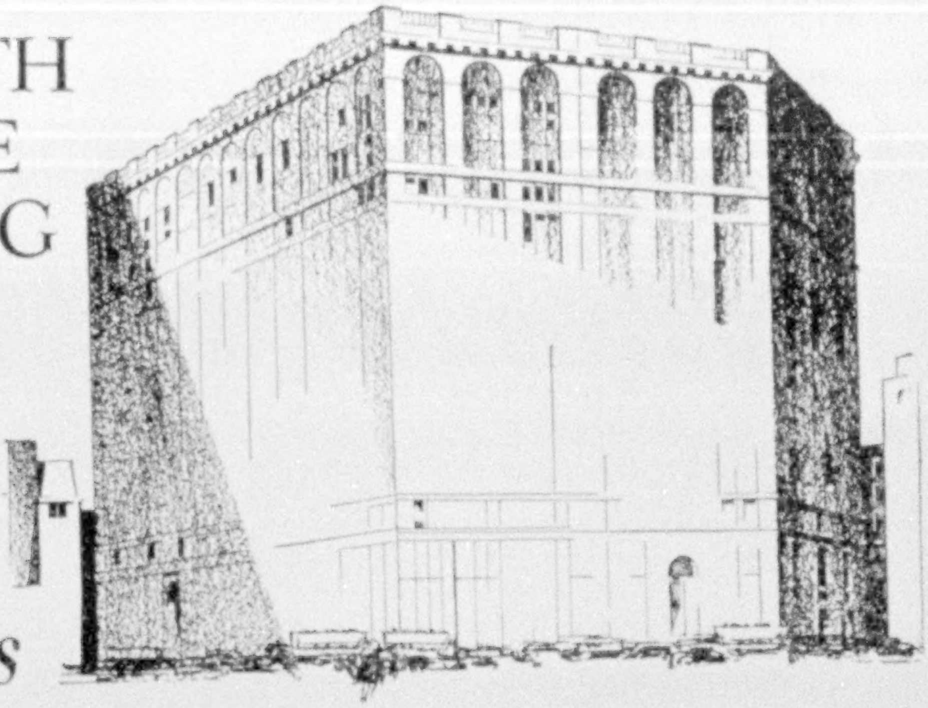
KREMENTZ & CO.
Newark, N. J.

No. 2082—Full Dress Set. White mother-of-pearl centers; Krementz Quality white metal rims. Complete, $7.50. Other sets to $50.

Krementz

CORRECT EVENING JEWELRY FOR MEN

THE FIFTH AVENUE BUILDING



Where many avenues of COMMERCE *meet*

New York, the world's richest market . . . Madison Square at the commercial heart of New York where the city's great thoroughfares cross. . . . Here is situated The Fifth Avenue Building, meeting place of many businesses.

These busy, throbbing avenues of commerce—Broadway and Fifth Avenue—lead to your door, when you have offices in The Fifth Avenue Building. Out-of-town buyers from every part of the country do business here. They range from buyers of dainty greeting cards to purchasers of milling machinery for gigantic paper mills. You have only to read the office directory in the lobby of The Fifth Avenue Building to understand why these buyers are here.

Tenants enjoy the prestige of a world-famous address—200 Fifth Avenue. For many decades this site was occupied by The Fifth Avenue Hotel, a meeting place of fashion and cosmopolitan importance. These tenants are in the midst of New York's commercial life. They are close to all up-town and down-town—ten minutes by subway from the Pennsylvania Station and but thirteen from Grand Central. Two elevated lines are nearby. Surface lines and busses pass the door.

With such accessibility, pleasant surroundings, business activity, the advantage of an address known the world over, it is not difficult to understand why The Fifth Avenue Building has gained such high standing in the commercial life of New York.

THE FIFTH AVENUE BUILDING

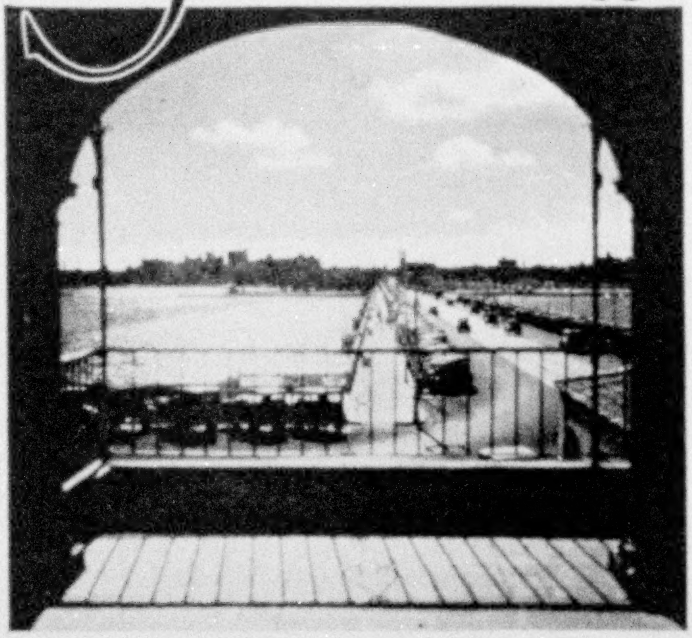
Broadway and Fifth Avenue, at Madison Square, New York

"More than an office building"

Everybody Likes St. Petersburg

The Sunshine City

FLORIDA



THERE'S a charm about St. Petersburg that takes hold of you the minute you arrive here. There's a warmth and tang in the very air that makes you feel ten years younger. There's a brightness in the sunshine that makes the heart more cheerful. There's a friendliness everywhere that makes you feel at home. And there's something going on, something to enjoy, something to do, every happy hour.

St. Petersburg makes a business of entertaining its winter visitors, of providing rest, relaxation and recreation for everyone, old or young. And it offers a greater variety of sport and entertainment than any other city of the South.

Golf, fishing, swimming, boating, aviation, horseback riding, roque, tennis, lawn bowling, shuffleboard—these are but the beginning of the list of sports.

Free band concerts twice daily in Williams Park—theaters, concerts, lectures, festivals, regattas, Big League baseball—these are but a few of the entertainment features provided.

Excellent accommodations in hotels, apartments or furnished homes. Moderate living costs. Plan to enjoy the winter in St. Petersburg. Free booklet on request. Mail the coupon.

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Chamber of Commerce,
St. Petersburg, Florida.

Yes; send me the St. Petersburg booklet.

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Address ....

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60 DAYS $995. UP

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Rates Include Hotels and Conducted Sightseeing Ashore

Apply to your Local Agent or

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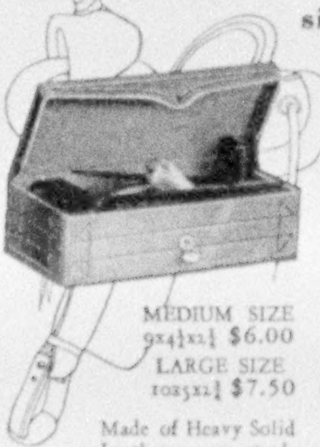
NEW IDEA *in toilet kits*

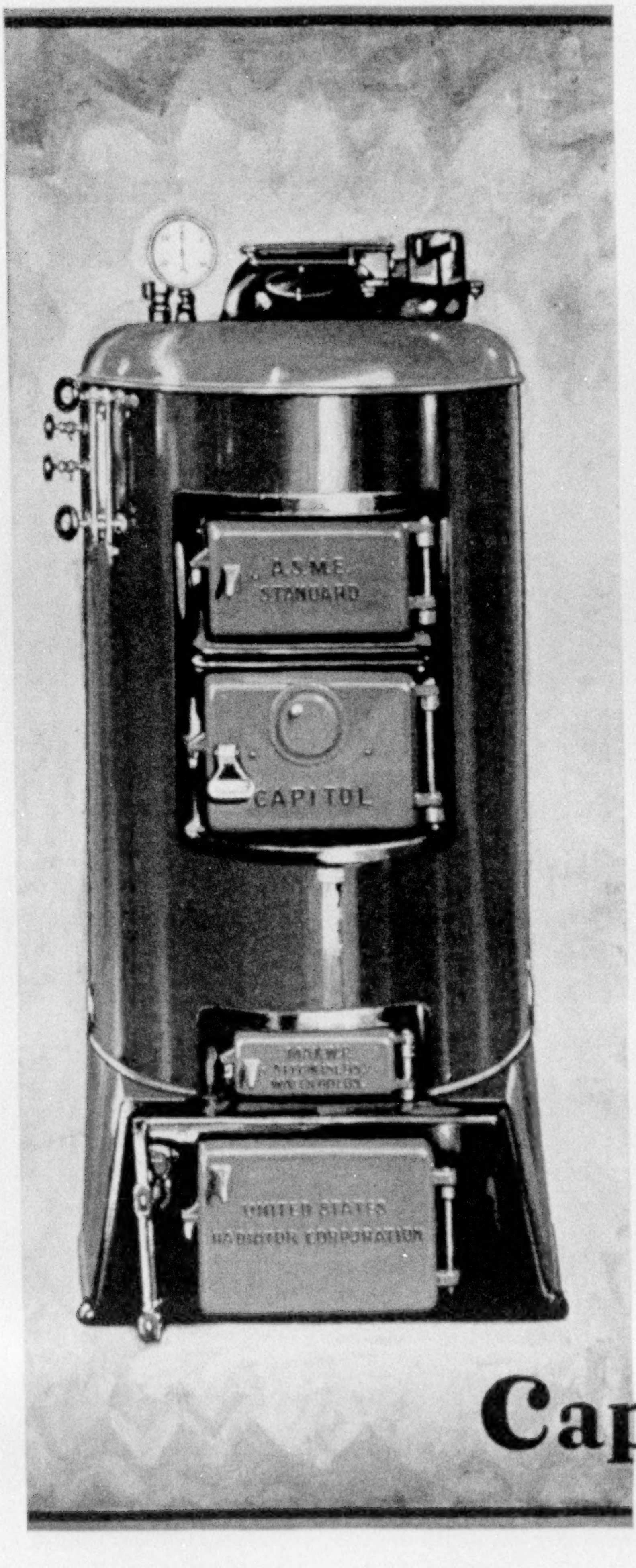
simply dump your toilet articles in this leather box...no loops, gadgets or monkey-business!



IN making fine custom saddles for western cowboys we buy the choicest, thickest, solid leather. A friend asked us to make from it a special toilet case. Others saw it...fell in love with it. Now we sell the Hamley Kit everywhere. Sent postpaid. Money back if you say so! Hamley & Co., Saddle Makers, Pendleton, Oregon.

The HAMLEY KIT

A handsome package of YEAR-'ROUND summer



By far, the finest, most efficient residence boiler of our thirty-eight years of progress now is realized in the Capitol Red Cap.

SO utterly new, different, advanced is the Capitol *Red Cap* that comparison with previous boilers is inadequate. Only the healthful warmth of a glorious summer's day can rival the cozy comfort it will bring into your home, every day, the long winter through.

In beauty, there is no duplicate for its staunch and trim round jacket that glistens in blue and red and nickel. As for insulation, its thick blanket of rock wool has no parallel in heat conservation. Frugality of fuel, ease of operation; every principle and point of design has been proved in thousands of actual installations.

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Regardless of your condition of deafness—be it mild or severe—you owe it to yourself to investigate this new discovery—to learn what it can mean to you in relief and satisfaction. Made by one of the world's largest manufacturers of Electro-Acoustic instruments. Fully guaranteed

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So tiny that its use is scarcely noticeable, yet so powerful that the entire range of sound, both near-by and distant, is reproduced in satisfactory volume and with natural, undistorted purity of tone. No buzzing; no static. Worn concealed in clothing. Tiny, inconspicuous earpiece and cord are all that shows. (See photo above.) So light, compact and comfortable that you hardly know you are wearing it. Write today for valuable circular and details of our special home trial offer. Write Department 111.

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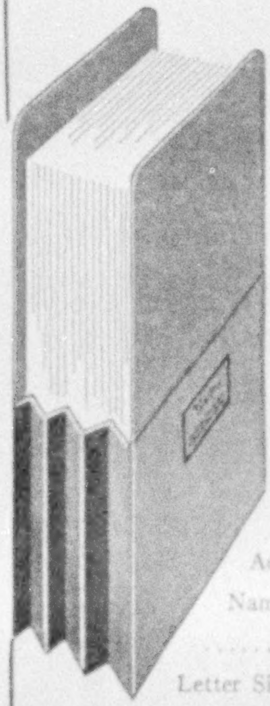
is impossible with old-style, flat folders. Bulging folders mean loss of clerks' time, misplaced papers and require extra filing space. Replace every bulging flat folder in your files with a



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VERTICAL-EXPANDING
File Pocket

and learn the value of filing containers that expand as the papers increase. Send the coupon below for a free demonstration file pocket.

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Please send me for trial in my files a free sample of Bushnell's Paperoid "VERTEX" File Pocket as described in November, 1928, National Geographic.

Name of Firm ....

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A SIMPLE matter now to keep heated rooms sufficiently moist for good health. Sore throats and coughs thrive in dry indoor air. RE-LY-O Air Moisteners are guaranteed water evaporators. (U. S. Patent No. 1,336,860.) They prevent your furniture from cracking and they save fuel as well.

RE-LY-O AIR MOISTENER

RE-LY-O Moisteners fasten securely to top of radiator, are good looking, easily cleaned, and highly efficient. Sent on receipt of money order or check, or C. O. D. Order now and help to avoid colds and discomfort this winter! Finished in gold or silver bronze, each $3.00; two for $5.00; three for $7.00, postpaid. Add 50c each for ivory finish. Special quantity prices for offices and schools.

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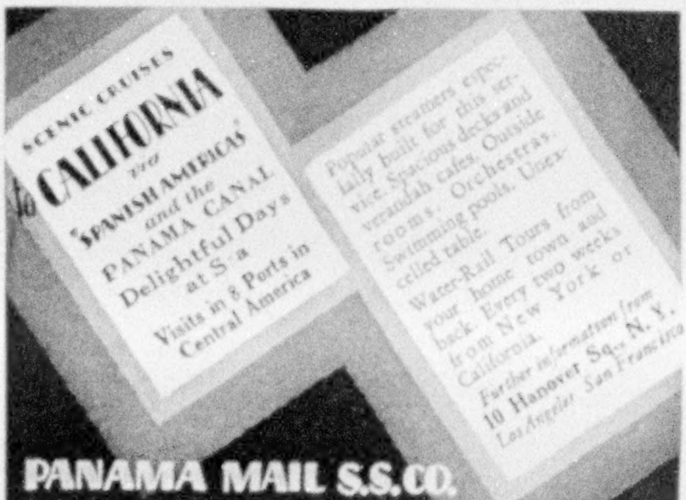
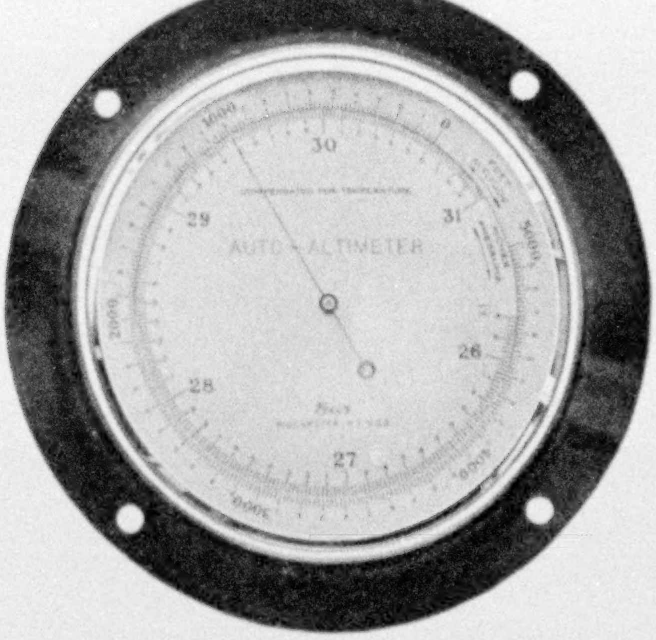


Tycos AUTO-ALTIMETER



A Distinguished Gift for Motoring Friends

There's a new zest to motoring when the dashboard carries one of these *Tycos* Auto-Altimeters. It tells how high the hill was, how deep the valley, how many feet you have climbed since morning. It gives the heights of towns and the difference in altitude between localities. It is a never-ending source of information and amusement.

Tycos Auto-Altimeter is truly "the aristocrat of the cowl." It is a superbly-made barometer, adapted and protected for use in the automobile. It is beautifully finished and adds a note of distinction to the equipment of even the finest car.

Haven't you on your list someone who "seems to have everything"? Wouldn't a *Tycos* Auto-Altimeter be a happy solution for his Christmas present? Interesting the year round and built to last indefinitely.

Tycos Auto-Altimeter is made in two styles, the "off-set" mounting, which attaches by four screws to the cowl, or the "inset" mounting, which fits flush on the cowl in a hole cut for it. Finished in black, with nickeled bezel, beveled crystal and silvered dial. Model No. 2073-C is scaled to 5,000 feet in 20-foot divisions. Price, $35.00. Model No. 2073-D is scaled to 10,000 feet in 50-foot divisions. Price, $36.50. Each is 3 inches across the dial. The flange is 4 inches in diameter. Your garage man can install it while you wait.

Your dealer can supply you, or we will send direct, safe delivery guaranteed, upon receipt of price. Be sure to specify the mounting you desire.

Taylor Instrument Companies

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SHORT & MASON, LTD., LONDON

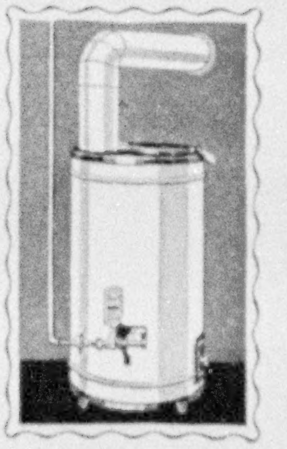
For as little as $100 f. o. b. factory

Does Your Home *Hide* Something?

Get rid of it—the decent way

At your back door, or in your yard, is there something you don't like to think about—*a garbage can?* And how about your basement—is it cluttered with fire-inviting litter?

Surely, in this age of modern bathrooms, automatic heat, and mechanical refrigeration, decency and health demand clean, odorless, *gas-fired incineration.* For as little as $100 *(f. o. b. factory)* you can install INCINOR—the home incinerator—in your home and banish forever the breeding places of germs and vermin and the most common source of fires. Set a good example for your community—be a good citizen. Mail the coupon. HOME INCINERATOR CO., MILWAUKEE, WISCONSIN.



INCINOR reduces wet garbage, trash, and rubbish to a few handfuls of clean, odorless, sterilized ash. Can be installed in any house, old or new, in a few minutes. No bother—simply press the lighter button and gas flame does the rest. Exclusive patented features insure complete incineration. Will not attract vermin; nothing "built-in." INCINOR is made in sizes for all homes and institutions. You can have it for as little as $100 (f. o. b. factory)!

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Good Riddance

GARBAGE · RUBBISH · TRASH

BURN IT WITH GAS — THE DECENT WAY

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HOME INCINERATOR COMPANY, Milwaukee, Wis.
Send me your free booklet "The Decent Way." Dept. D.

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A Garden Full of Darwin Tulips for $2.00

In anticipation of again placing before our customers a collection of Darwin Tulips we have had a sufficient quantity grown so that we can offer

50 Giant Darwin Tulip Bulbs, Finest Mixed, for $2.00

selected from fifteen named varieties

Few spring flowering plants rival the Darwin Tulip for brilliance of bloom. Borne on strong stems often exceeding three feet. They are a wonderful addition to the flower garden.

Plant any time before the ground becomes frozen, and they will bloom from the middle of May to Decoration Day

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Our 1928 Fall Bulb Catalogue sent on request

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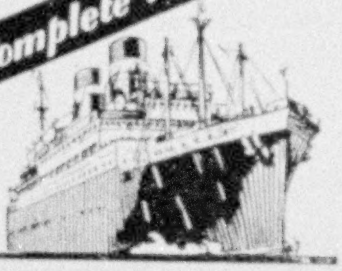

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If Your Checks Are Raised, Who Loses?

Nine times out of ten YOU are the one who stands the loss if a crook gets hold of your check and raises it. Don't take any more chances! The next check you write may fall into the hands of a check-raiser! Make your checks crook-proof with an Arnold Check Writer. It cuts the figures right through the paper and prints with acid-proof ink. World's lowest-priced check writer. A present-day necessity for everyone who has a bank account. Thousands in use.

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This reliable Barometer indicates changes in weather 8 to 24 hours in advance. Scientifically constructed, attractive in appearance. Highly polished mahogany case, silvered metal dial, heavy bevel glass front. Size 5½ inches.

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HENRY BARTELS

Canaries GUARANTEED TO SING

Enjoy the sweet, golden song of a Henry Bartels "*Bred-To-Sing*" Canary. Every bird is perfectly healthy, thoroughly acclimated; bred from famous singers. If no dealer near you has genuine Henry Bartels Canaries, we will ship a selected, fine young singing male direct on receipt of price; satisfaction and safe delivery guaranteed.

$8 for fine, young, healthy singing Hartz Mountain ROLLER. **$12** for Hartz Mountain CHOPPER, famous for beauty of song.

Enameled cage (white, blue, green or red) $3.50 additional. Complete Descriptive Price List of various cage birds FREE.

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IN TIMES OF SNOW
PREPARE FOR SPRING

The Book of Birds
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Their many full-color plates and engravings and their delightful text make them ideal reading for young or old on wintry days.

Molloy-made bindings de Luxe, $4, postpaid in U. S. and Canada. Foreign mailing, 25 cents

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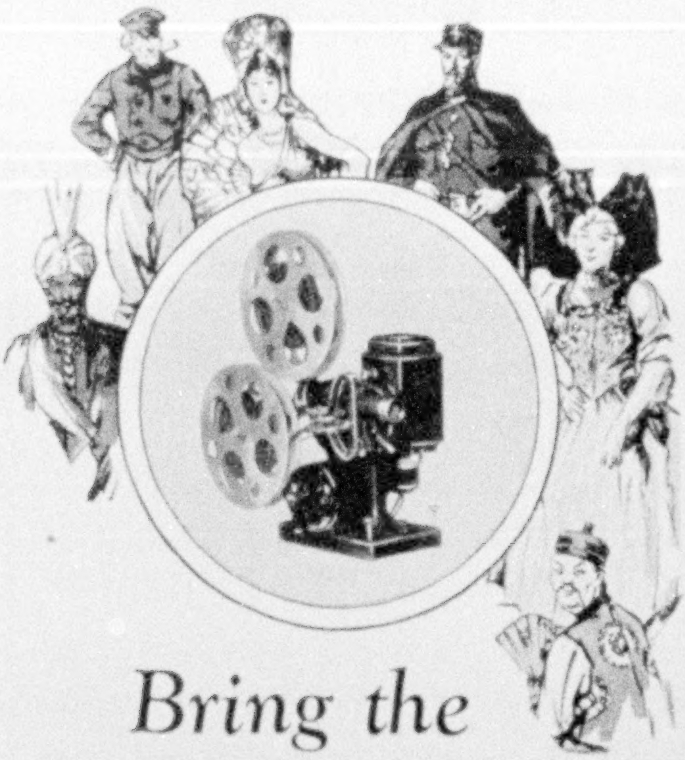

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ARM CHAIR TRAVEL, that brings vividly before you in *living* pictures, scenes and peoples from the ends of the earth! Nature and natural history pictured to the life... science... sport... comedies... "features"... all this is yours to enjoy with a DeVry home movie projector.

Clear, brilliant, flickerless, full-size motion pictures right in your own living room. What a wonderful gift for the family! Easy to operate; no experience required. Wide variety of subjects on non-inflammable safety film at reasonable purchase or rental rates. Projector costs but $95.

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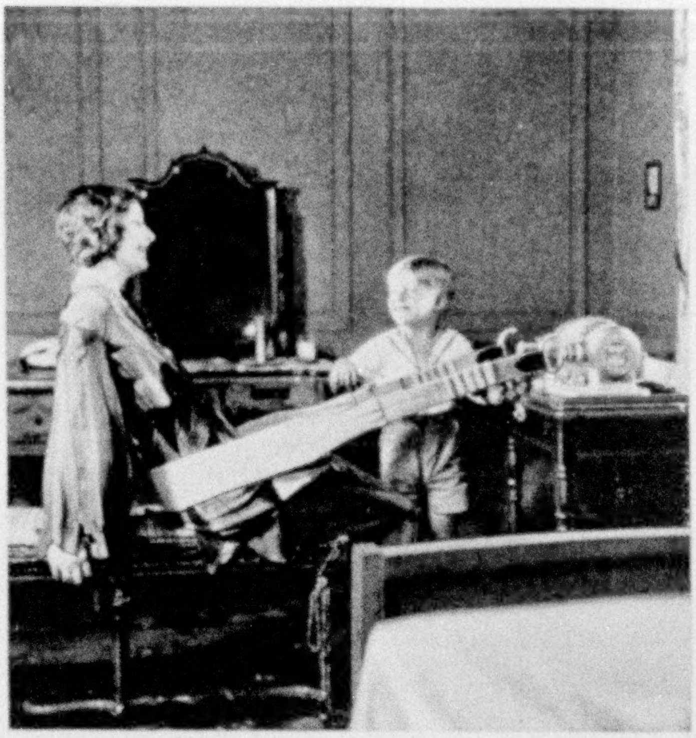
Your doctor will tell you



THAT more often he prescribes "plenty of exercise" than he does drugs as curative and preventative. Right eating and exercise is the first simple rule for health.

But, you may say, I can govern my diet, but where and how get the systematic exercise, when time is fleeting, and business and social demands are many and multiplying? Walking, golfing, swimming—even the matutinal daily dozen—require *time and wherewithal!*

Your doctor has an answer—"SAVAGE HEALTH MOTOR," the scientific vibratory mechanical exerciser and reducer. He knows that for ailments due to under-exercising and over-eating, The Savage Health Motor is beneficial and economical, because its pleasant, stimulating, vibratory massage enlivens the vital organs, speeds circulation, aids digestion, elimination and sleep, in fact, rejuvenates the entire system.

The illustration tells the story. Place this portable health motor on table, desk or window ledge; its adjustable anchor strap holds it against the pull of the oscillator belt (easily removable); attach cord to nearest electrical outlet, touch the the switch and away go lethargy and lassitude.

The Savage Health Motor is *compact, portable*, vibrationless and silent in operation. And its price ($122.50 East of the Mississippi) is well within the means of the many.

The interesting story, "The Spirit of Health," gives details. Ask for it today. Address

SAVAGE PRODUCTS DISTRIBUTING CORPORATION
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Subsidiary of Savage Arms Corporation

Makers of the famous Savage-Stevens Sporting Arms, the Savage Wringerless Washer and Savage All Electric Ironing Machine.

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Patents applied for by J. G. De Remer

SAVAGE PRODUCTS DISTRIBUTING CORPORATION
Dept. N Utica, N. Y.

I am interested in keeping and looking fit. Send me your story, "The Spirit of Health."

Name.............................. *Address*..............................

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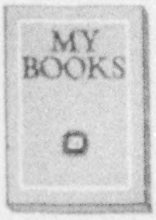

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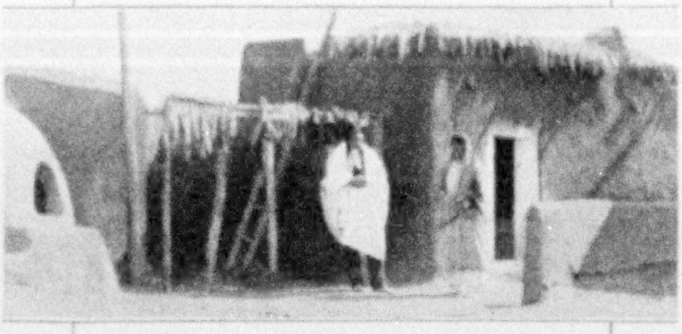

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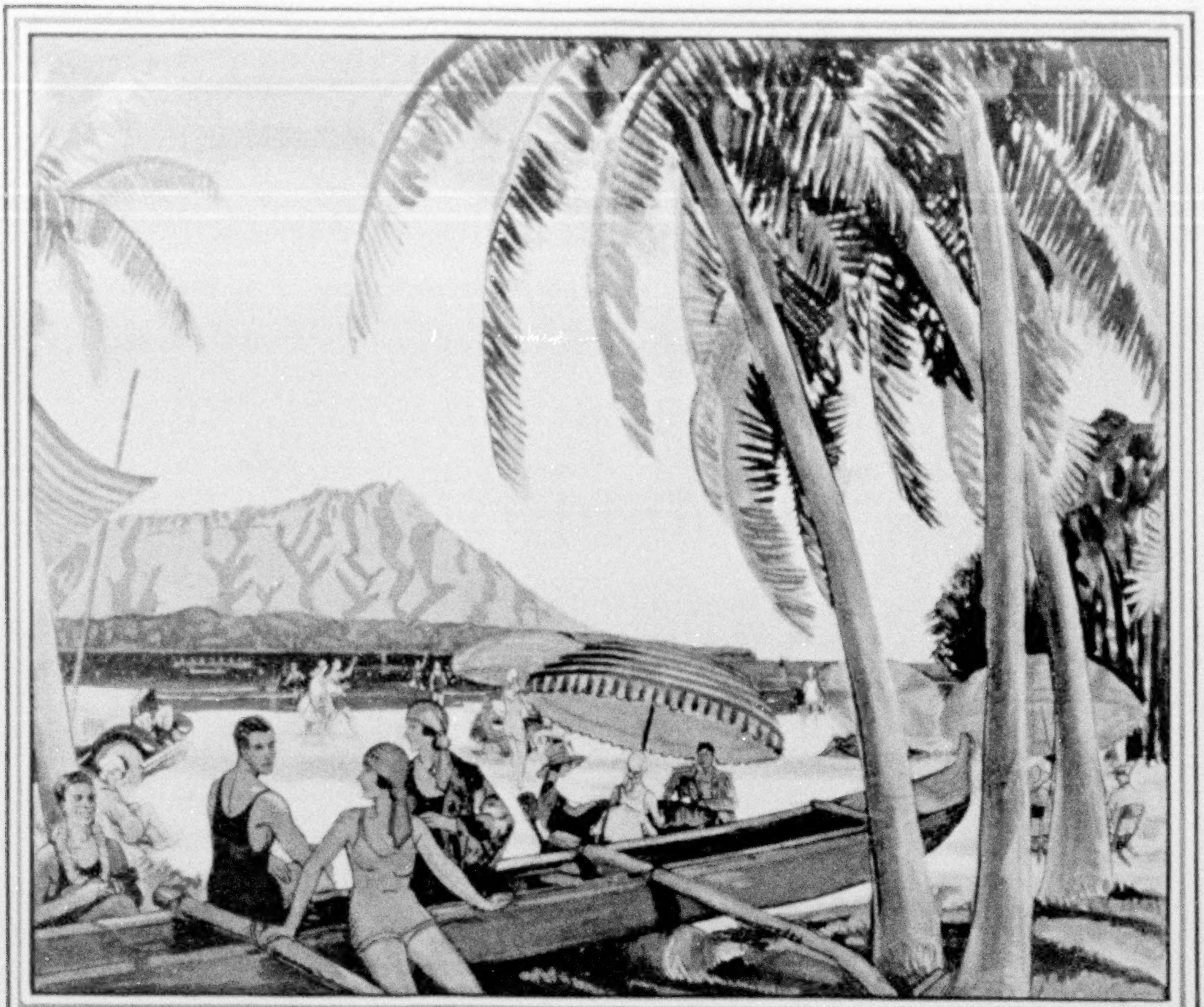

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